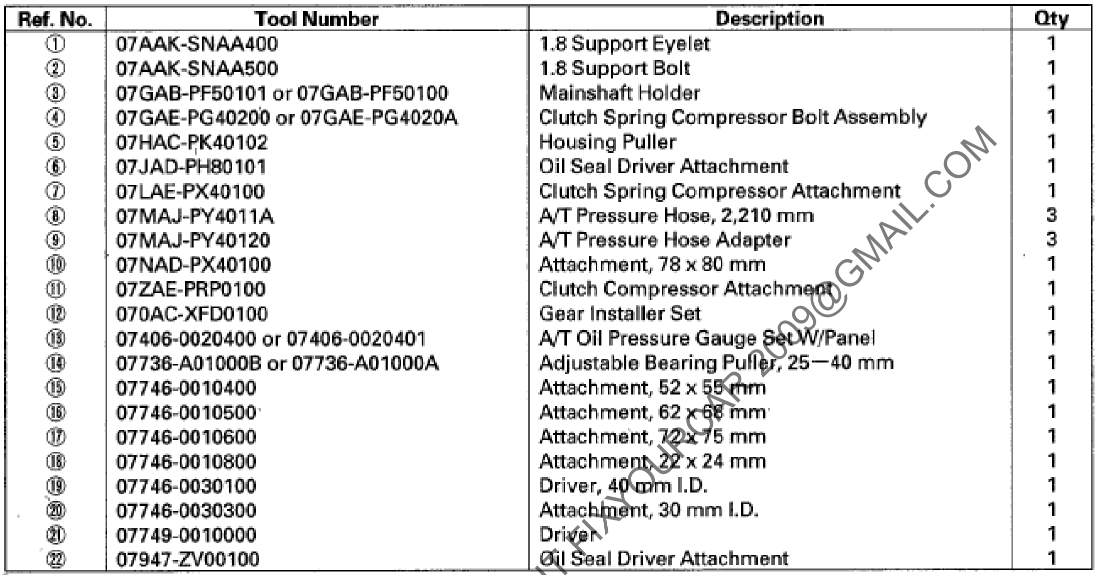
# 2006-08 TRANSMISSION

## Automatic Transmission - Civic (Except Hybrid)

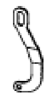
# AUTOMATIC TRANSMISSION

## SPECIAL TOOLS



| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ② | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |
| ③ | 07GAB-PF50101 or 07GAB-PF50100 | Mainshaft Holder | 1 |
| ④ | 07GAE-PG40200 or 07GAE-PG4020A | Clutch Spring Compressor Bolt Assembly | 1 |
| ⑤ | 07HAC-PK40102 | Housing Puller | 1 |
| ⑥ | 07JAD-PH80101 | Oil Seal Driver Attachment | 1 |
| ⑦ | 07LAE-PX40100 | Clutch Spring Compressor Attachment | 1 |
| ⑧ | 07MAJ-PY4011A | A/T Pressure Hose, 2,210 mm | 3 |
| ⑨ | 07MAJ-PY40120 | A/T Pressure Hose Adapter | 3 |
| ⑩ | 07NAD-PX40100 | Attachment, 78 x 80 mm | 1 |
| ⑪ | 07ZAE-PRP0100 | Clutch Compressor Attachment | 1 |
| ⑫ | 070AC-XFD0100 | Gear Installer Set | 1 |
| ⑬ | 07406-0020400 or 07406-0020401 | A/T Oil Pressure Gauge Set W/Panel | 1 |
| ⑭ | 07736-A01000B or 07736-A01000A | Adjustable Bearing Puller, 25—40 mm | 1 |
| ⑮ | 07746-0010400 | Attachment, 52 x 55 mm | 1 |
| ⑯ | 07746-0010500 | Attachment, 62 x 68 mm | 1 |
| ⑰ | 07746-0010600 | Attachment, 72 x 75 mm | 1 |
| ⑱ | 07746-0010800 | Attachment, 22 x 24 mm | 1 |
| ⑲ | 07746-0030100 | Driver, 40 mm I.D. | 1 |
| ⑳ | 07746-0030300 | Attachment, 30 mm I.D. | 1 |
| ㉑ | 07749-0010000 | Driver | 1 |
| ㉒ | 07947-ZV00100 | Oil Seal Driver Attachment | 1 |

⑤: If the top arm is too short, replace it with 07SAC-P0Z0101.
⑦: 07HAE-PL50101 may also be used to substitute one of these tools.
⑭: Must be used with commercially available 3/8 "-16 slide hammer.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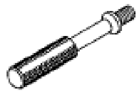
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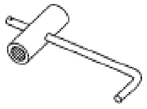
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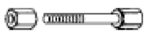
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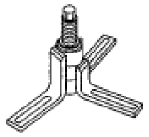
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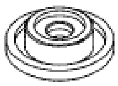
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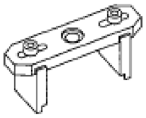
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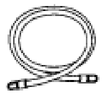
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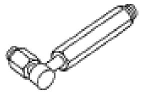
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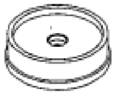
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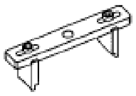
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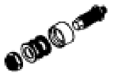
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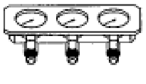
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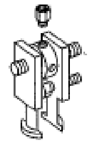
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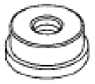
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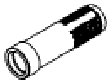
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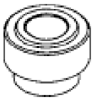
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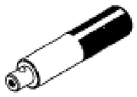
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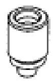
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**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## GENERAL TROUBLESHOOTING INFORMATION

### How to Check for DTCs with the Honda Diagnostic System (HDS)

When the powertrain control module (PCM) senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (tach) (B) will usually blink.

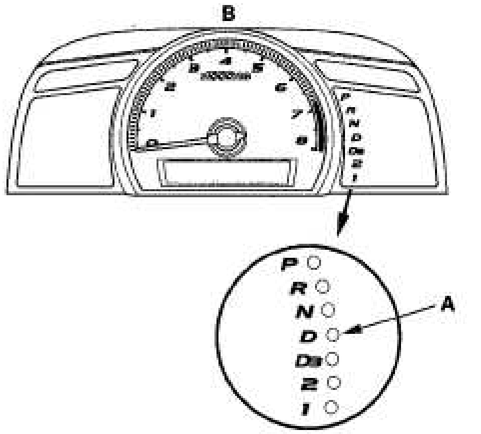

**Fig. 2: Identifying D Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

When the Honda Diagnostic System (HDS) is connected to the data link connector (DLC) (A) located behind the driver's dashboard lower cover and the SCS mode is selected, it will indicate the diagnostic trouble code (DTC) when the ignition switch is turned to ON (II) and the appropriate menu is selected.

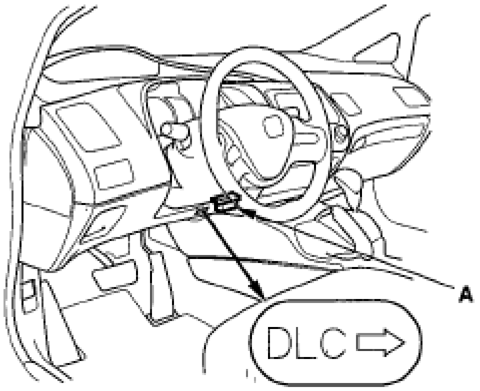

**Fig. 3: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If the D indicator or the malfunction indicator lamp (MIL) has been reported on, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select A/T system, and observe the DTC in the DTCs MENU on the HDS screen.
4. Record the freeze data and on-board snapshots for all fuel and emissions DTCs and A/T DTCs.
5. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC.
6. Clear the DTC and data.
7. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for a DTC. If the A/T DTC returns, go to the **INDICATED DTC'S TROUBLESHOOTING**. If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

**Symptom Troubleshooting Versus DTC Troubleshooting**

Some symptoms will not trigger diagnostic trouble codes (DTCs) or cause the D indicator to blink. If the malfunction indicator lamp (MIL) was reported on or the D indicator has been blinking, check for DTCs. If the vehicle has an abnormal symptom, and there are no DTCs stored, do the symptom troubleshooting. Check the list of probable cause(s) for the symptom, in the sequence listed, until you find the problem.

**How to Check for DTCs with the SCS Mode (retrieving the flash codes)**

**NOTE: The preferred method is to use the HDS to retrieve the P-**

**code.**

When the PCM senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (tach) (B) will usually blink.

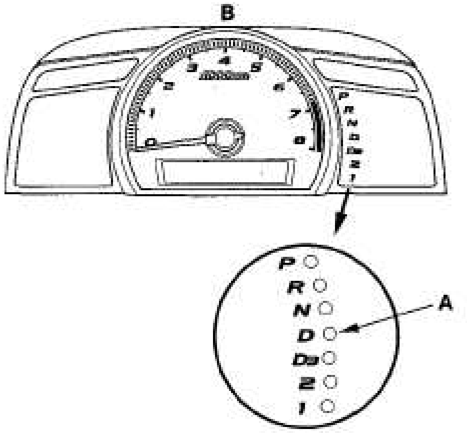

**Fig. 4: Identifying D Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

When the D indicator has been reported on, connect the HDS to the DLC (A) located behind the driver's dashboard lower cover. Turn the ignition switch to ON (II), select SCS mode, then the D indicator will indicate flash the DTC.

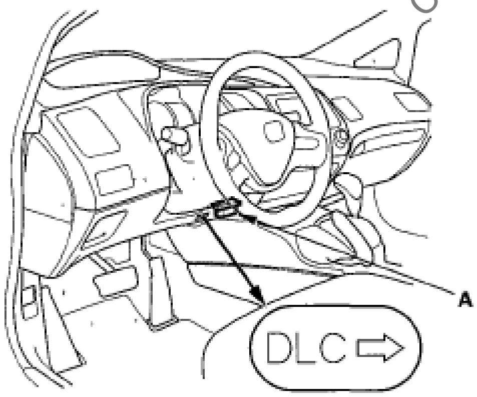

**Fig. 5: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If the D indicator and the MIL come on at the same time, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** . .
3. Select SCS mode, then observe the D indicator in the gauge control module. Codes 1 through 9 are indicated by individual short blinks. Code 10 and above are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the code.

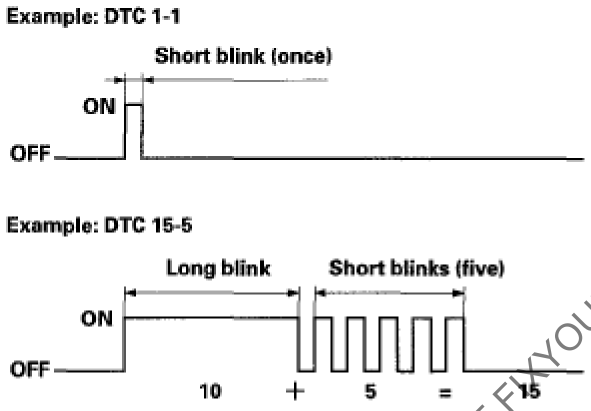

**Fig. 6: D Indicator - Blinking Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Record all fuel and emissions DTCs and A/T DTCs.
5. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC.
6. Clear the DTC and data.
7. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for DTCs. If the A/T DTC returns, go to the **INDICATED DTC'S TROUBLESHOOTING**. If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

**How to Troubleshoot Circuits at the PCM Connectors**

**NOTE: The PCM overwrites data and monitors the EVAP system for up to 15 minutes after the ignition switch is turned to**

**LOCK (0). Jumping the SCS line after turning the ignition switch to LOCK (0) cancels this function. Disconnecting the PCM during this function, without jumping the SCS line first, can damage the PCM.**

1. Jump the SCS line with the HDS.
2. Remove the PCM cover (A).

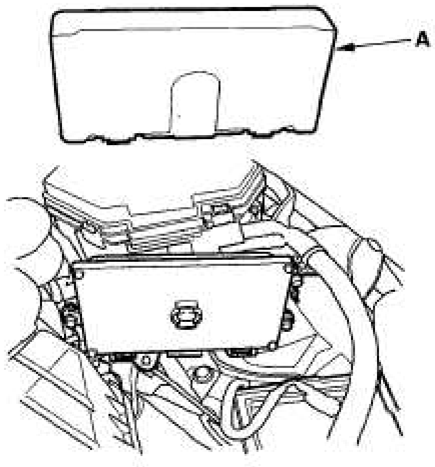

**Fig. 7: Identifying PCM Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the mounting bolts, disconnect the PCM connectors, and probe the terminals in the inspection port on the terminal side of the connectors.

**NOTE:** **PCM connectors A, B, and C have symbols (A=[], B= triangle symbol , C=o) embossed on them for identification.**

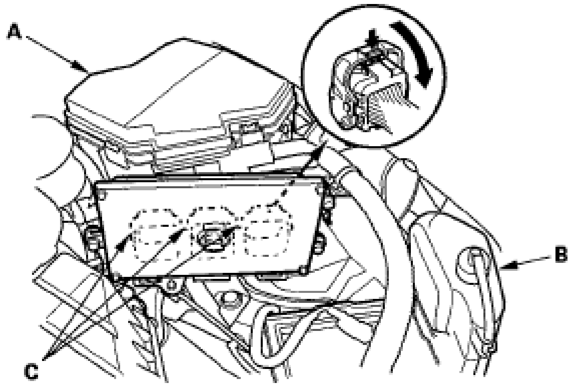

**Fig. 8: Disconnecting PCM Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the connector inspection port (A) size, and select a suitable pin probe.

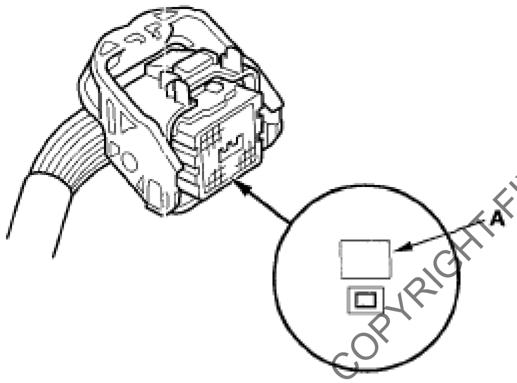

**Fig. 9: Identifying Connector Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect one end of the patch cords (A) terminal to a digital multimeter (B), and connect the other side of the patch cord terminal to a commercially available banana jack (Pomona Electronics Tool No. 3563 or equivalent) (C).

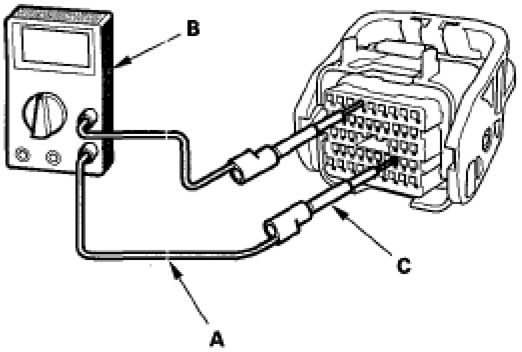

Fig. 10: Checking Connector Terminal Port
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Gently slide the pin probe into the inspection port at the connector terminal side. Always use the inspection port. Do not slide the probe into the connector terminals.

**NOTE:**

- **For accurate result, always use the pin probe (male)**
- **To prevent damage to the connector terminals, do not insert test equipment probes, paper clips, or other substitutes as they can damage the terminals. Damaged terminals cause a poor connection and an incorrect measurement.**
- **Do not puncture the insulation on a wire. Punctures can cause poor or intermittent electrical connections.**

### Clear A/T DTCs Procedures

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

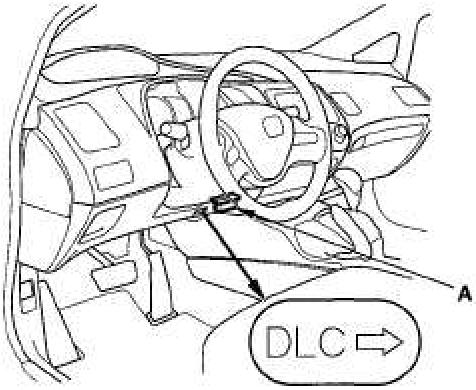

**Fig. 11: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** .
4. Clear the DTC(s) on the HDS screen.

#### OBD Status

The OBD status shows the current system status of each DTC and all of the parameters. This function is used to see if the technician's repair was successfully completed. The results of diagnostic tests for the DTC are displayed as:

- PASSED: The On-board diagnosis is successfully completed.
- FAILED: The On-board diagnosis has finished but failed.
- NOT COMPLETED: The On-board diagnosis was running but is out of the enable conditions of the DTC.

#### How to End a Troubleshooting Session

This procedure must be done after any troubleshooting.

**NOTE: Reset the PCM with the HDS while the engine is stopped.**

1. Turn the ignition switch to LOCK (0).
2. Turn the ignition switch to ON (II), and wait for 30 seconds.

3. Turn the ignition switch to LOCK (0), and disconnect the HDS from the DLC.
4. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
5. Start the engine with the shift lever in P or N, and warm it up to normal operating temperature (the radiator fan comes on).
6. To verify that the problem is repaired, test-drive the vehicle for several minutes at speeds over 31 mph (50 km/h) or under the same conditions as those indicated by the freeze data.

### Updating the PCM

## Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

**NOTE:**

- **Use this procedure when you need to update the PCM during troubleshooting procedures.**
- **Make sure HDS/HIM has the latest software version downloaded from the iN (interactive network).**
- **To ensure the latest program is installed, do a PCM update whenever the PCM is substituted or replaced.**
- **You cannot update a PCM with the program it already has. It will only accept a new program.**
- **Before you update the PCM, make sure the battery is fully charged, and connect a jumper battery (not a battery charger) to maintain system voltage.**
- **Never turn the ignition switch to LOCK (0) while updating the PCM. If you turn the ignition switch to LOCK (0) before completion, the PCM can be damaged.**

- **To prevent PCM damage, do not operate anything electrical (audio system, brakes, A/C, power windows, moonroof (if equipped), door locks, etc.) during the update.**
- **If you need to diagnose the Honda interface module (HIM) because the HIM's red (#3) light came on or was flashing during the update, leave the ignition switch in the ON (II) position when you disconnect the HIM from the data link connector (DLC). This will prevent PCM damage.**
- **High temperature in the engine compartment might cause the PCM to become too hot to run the update. If the engine has been running before this procedure, open the hood and cool the engine compartment.**

1. Turn the ignition switch to ON (II), but do not start the engine.
2. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

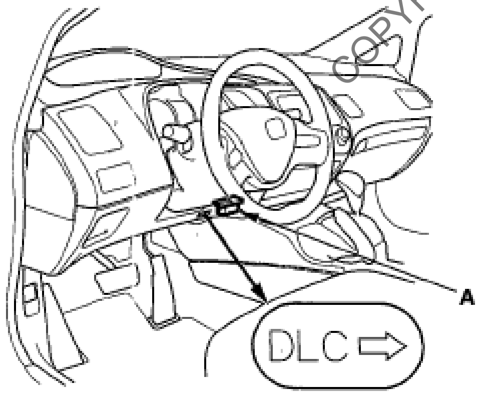

**Fig. 12: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Make sure the HDS communicates with the PCM. if it does not, go to **DLC CIRCUIT TROUBLESHOOTING** .
4. Select the INSPECTION MENU with the HDS.
5. Select the ETCS TEST, then select the TP POSITION CHECK, and follow the

HDS screen prompts.

**NOTE: If the TP POSITION CHECK indicates FAILED, continue this procedure.**

6. Exit the HDS, then select the CM update, and follow the screen prompts to update the PCM.
7. If the PCM has the latest software, disconnect the HDS/HIM from the DLC, and go back to the procedure that you were doing. If the software in the PCM is not the latest, follow the instructions on the screen. If prompted to choose the PGM-FI system or the A/T system, make sure you update both.

**NOTE: If the PCM update procedure requires you to cool the PCM, follow the screen prompts. If you run into a problem (programming takes over 15 minutes, status bar goes over 100%, D or immobilizer indicator flashes, HDS tablet freezes, etc.) during the update procedure, follow these steps to minimize the chance of damaging the PCM:**

- **Leave the ignition switch in the "ON (II)" position.**
- **Connect a jumper battery (do not connect a battery charger).**
- **Shut down the HDS.**
- **Disconnect the HDS from the DLC.**
- **Reboot the HDS.**
- **Reconnect the HDS to the DLC, and try the update procedure again.**

8. If the TP POSITION CHECK failed in step 5, clean the throttle body (see **THROTTLE BODY CLEANING** ).
9. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
10. Do the crank (CKP) learn procedure (see **CRANK (CKP) PATTERN**

**CLEAR/CRANK (CKP) PATTERN LEARN** ).

**Substituting the PCM**

## Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

Use this procedure when you need to substitute a known-good PCM during troubleshooting procedures.

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

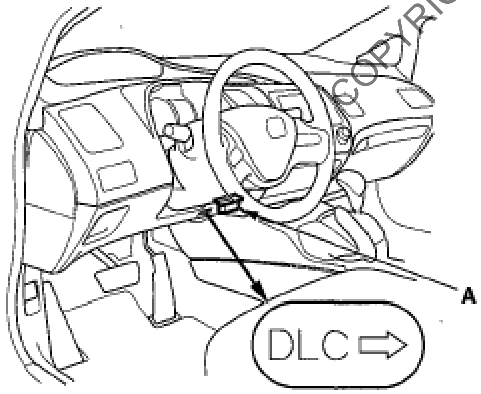

**Fig. 13: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** . If you did the DLC circuit troubleshooting, skip steps 5 thru 9, then clean the throttle body (see

**THROTTLE BODY CLEANING** ) after substituting the PCM.

5. Select the INSPECTION MENU with the HDS.
6. Select the TP POSITION CHECK in the ETCS TEST with the HDS.

**NOTE: If the TP POSITION CHECK indicates FAILED, continue this procedure.**

7. Turn the ignition switch to LOCK (0).
8. Remove the battery.
9. Remove the PCM cover (A).

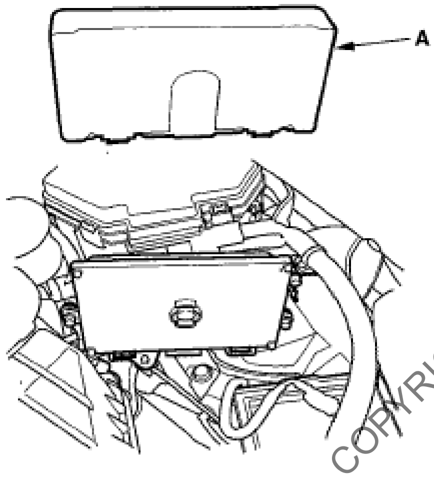

**Fig. 14: Identifying PCM Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the bolts (D), and remove the PCM (E).

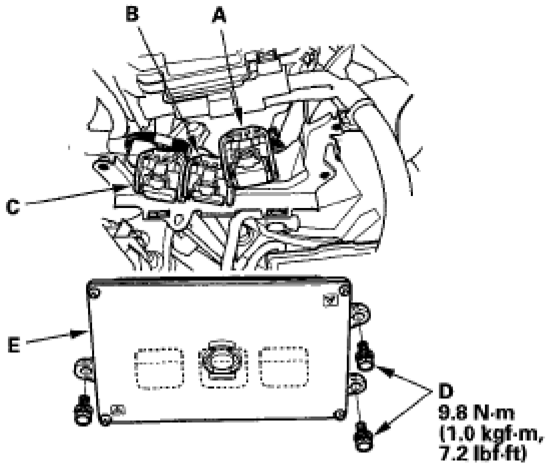

**Fig. 15: Identifying PCM Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Disconnect PCM connectors A, B, and C.

**NOTE:** **PCM connectors A, B, and C have symbols (A=[], B= triangle symbol , C=o) embossed on them for identification.**

12. Install the PCM and the battery in the reverse order of removal.
13. Turn the ignition switch to ON (II).

**NOTE:** **DTC P0630 "VIN not Programmed or Mismatch" will be stored because VIN has not been programmed into the PCM. Ignore it, and continue this procedure.**

14. Input the VIN to the PCM with the HDS.
15. Update the PCM if it does not have the latest software.
16. Select the IMMOBILIZER SYSTEM with the HDS.
17. Enter the immobilizer code with the PCM replacement procedure in the HDS; this allows you to start the engine.
18. Reset the PCM with the HDS.
19. If the TP POSITION CHECK indicates FAILED in step 6, clean the throttle body (see **THROTTLE BODY CLEANING** ).

20. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
21. Do the crank (CKP) learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN** ).
22. Enter the anti-theft code for the audio system or the navigation system (if equipped), enter the audio presets. Set the clock (on vehicles without navigation).

### DTC TROUBLESHOOTING INDEX

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

## DTC TROUBLESHOOTING CHART

| DTC[1] | D Indicator | MIL | Detection Item |
|---|---|---|---|
| **P0107** (12)[3] | Blinks | ON or OFF | Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage Input |
| **P0108** (12)[3] | Blinks | ON or OFF | Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage Input |
| **P0335** (88)[3] | Blinks | ON or OFF | Crankshaft Position (CKP) Sensor No signal |
| **P0339** (88)[3] | Blinks | ON or OFF | Crankshaft Position (CKP) Sensor Intermittent Interruption |
| **P0365** (89)[3] | Blinks | ON or OFF | Camshaft Position (CMP) Sensor No |

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| | | | Signal |
| **P0369** (89)(3) | Blinks | ON or OFF | Camshaft Position (CMP) Sensor Intermittent Interruption |
| **P0603** (0)(3) | Blinks | ON or OFF | PCM Internal Control Module Keep Alive Memory (KAM) Error |
| **P0705** (5)(2) | Blinks | ON | Short in Transmission Range Switch Circuit (Multiple Shift-position Input) |
| **P0706** (6)(2) | OFF | ON | Open in Transmission Range Switch Circuit |
| **P0711** (28)(2) | Blinks | OFF | Problem in ATF Temperature Sensor Circuit |
| **P0712** (28)(2) | Blinks | OFF | Short in ATF Temperature Sensor Circuit |
| **P0713** (28)(2) | Blinks | OFF | Open in ATF Temperature Sensor Circuit |
| **P0716** (15)(2) | Blinks | ON | Problem in Input Shaft (Mainshaft) Speed Sensor Circuit |
| **P0717** (15)(2) | Blinks | ON | Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input) |
| **P0718** (15)(2) | Blinks | ON | Input Shaft (Mainshaft) Speed Sensor Intermittent Failure |

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| **P0721** (9)(2) | Blinks | ON | Problem in Output Shaft (Countershaft) Speed Sensor Circuit |
| **P0722** (9)(2) | Blinks | ON | Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input) |
| **P0723** (9)(2) | Blinks | ON | Output Shaft (Countershaft) Speed Sensor Intermittent Failure |
| **P0731** (64) | Blinks | OFF | Problem in 1st Clutch and 1st Clutch Hydraulic Circuit (1st Gear Incorrect Ratio) |
| **P0732** (64) | Blinks | OFF | Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit (2nd Gear Incorrect Ratio) |
| **P0733** (64) | Blinks | OFF | Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit (3rd Gear Incorrect Ratio) |
| **P0734** (64) | Blinks | OFF | Problem in 4th Clutch and 4th Clutch Hydraulic Circuit (4th Gear Incorrect Ratio) |
| **P0735** (64) | Blinks | OFF | Problem in 5th Clutch and 5th Clutch Hydraulic Circuit (5th Gear Incorrect Ratio) |
| **P0741** (40) | OFF | ON | Torque Converter Clutch Hydraulic Circuit Stuck OFF |

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| **P0746** (76) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve A Stuck OFF |
| **P0747** (76) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve A Stuck ON |
| **P0751** (70) | Blinks | ON | Shift Solenoid Valve A Stuck OFF |
| **P0752** (70) | Blinks | ON | Shift Solenoid Valve A Stuck ON |
| **P0756** (71) | Blinks | ON | Shift Solenoid Valve B Stuck OFF |
| **P0757** (71) | Blinks | ON | Shift Solenoid Valve B Stuck ON |
| **P0761** (72) | Blinks | ON | Shift Solenoid Valve C Stuck OFF |
| **P0762** (72) | Blinks | ON | Shift Solenoid Valve C Stuck ON |
| **P0766** (73) | Blinks | ON | Shift Solenoid Valve D Stuck OFF |
| **P0767** (73) | Blinks | ON | Shift Solenoid Valve D Stuck ON |
| **P0776** (77) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve B Stuck OFF |
| **P0777** (77) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve B Stuck ON |
| **P0796** (78) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve C Stuck OFF |
| **P0797** (78) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve C Stuck ON |

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| **P0812** (65)[2] | Blinks | ON | Open in Transmission Range Switch ATP RVS Switch Circuit |
| **P0842** (25)[2] | Blinks | ON | Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON |
| **P0843** (25)[2] | Blinks | ON | Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF |
| **P0847** (26)[2] | Blinks | ON | Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON |
| **P0848** (26)[2] | Blinks | ON | Open in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF |
| **P0962** (16)[2] | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit |

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| **P0963** (16)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve A |
| **P0966** (23)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit |
| **P0967** (23)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve B |
| **P0970** (29)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit |
| **P0971** (29)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve C |
| **P0973** (7)(2) | Blinks | ON | Short in Shift Solenoid Valve A Circuit |
| **P0974** (7)(2) | Blinks | ON | Open in Shift Solenoid Valve A Circuit |
| **P0976** (8)(2) | Blinks | ON | Short in Shift Solenoid Valve B Circuit |
| **P0977** (8)(2) | Blinks | ON | Open in Shift Solenoid Valve B Circuit |
| **P0979** (22)(2) | Blinks | ON | Short in Shift Solenoid Valve C Circuit |
| **P0980** (22)(2) | Blinks | ON | Open in Shift Solenoid Valve C Circuit |
| **P0982** (60)(2) | Blinks | ON | Short in Shift Solenoid Valve D Circuit |
| **P0983** (60)(2) | Blinks | ON | Open in Shift Solenoid Valve D Circuit |
| **P16C0** (99) | OFF | ON | PCM A/T Control |

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| | | | System Incomplete Update |
| **P1717** (62)[2] | Blinks | ON | Open in Transmission Range Switch ATP RVS Switch Circuit |
| **P1746** (45) | Blinks | OFF | Problem in Shift Control System; Cut Valve A Stuck OFF, or Cut Valve B Stuck ON |
| **P1747** (45) | Blinks | OFF | Problem in Shift Control System; Cut Valve A Stuck ON, or Cut Valve B Stuck OFF |
| **P1780** (49) | Blinks | ON | Problem in Shift Control System |
| **P2122** (20) | Blinks | ON | Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit Low Voltage Input |
| **P2123** (20) | Blinks | ON | Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit High Voltage Input |
| **U0028** (107) | Blinks | OFF | F-CAN Malfunction (BUS-OFF (PCM)) |
| **U0121** (107) | Blinks | OFF | F-CAN Malfunction (PCM-ABS) |
| **U0155** (107)[3] | Blinks | ON or OFF | F-CAN Malfunction (PCM-Gauge Control Module) |

(1) The DTC in parentheses is the flash code. The D indicator indicates when the data link connector (DLC) is connected to the HDS, and in the SCS mode.

(2) This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

(3) The MIL comes on when the PGM-FI system detects the same failure.

**SYMPTOM TROUBLESHOOTING INDEX**

## TROUBLESHOOTING CHART

| Symptom | Probable cause(s) | Notes |
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| When you turn the ignition switch to ON (II), the D indicator comes on and stays on in all shift lever positions, or it never comes on at all | • F-CAN communication line error<br>• Gauge control module defective<br>• PCM defective | • Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT ( )**.<br>• Check the indicator drive circuit in the gauge control module by using the gauge control module |

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| | | self-diagnostic function (see **THE INDICATOR DRIVE CIRCUIT CHECK** ). |
| A/T gear position indicator does not come on while the shift lever is in that position | • F-CAN communication line error<br>• Gauge control module defective<br>• PCM defective<br>• Transmission range switch defective | • Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT (** ).<br>• Check the indicator drive circuit in the gauge control module by using the gauge control module self-diagnostic function (see **THE INDICATOR DRIVE CIRCUIT CHECK** ).<br>• Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| Shift lever cannot be moved from P while you are pressing on the | • Accelerator pedal position sensor circuit<br>• Accelerator pedal | • Inspect the APP Sensor signal (see **APP SENSOR SIGNAL INSPECTION** ).<br>• Troubleshoot the shift lock |

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| brake pedal | position sensor defective<br>- Brake switch circuit<br>- Brake switch defective<br>- Shift lock solenoid defective<br>- Shift lock solenoid control circuit<br>- Shift lock mechanism defective<br>- Throttle body defective<br>- Transmission range switch ATP P switch stuck OFF<br>- Transmission range switch ATP P switch line opened | system circuit (see **SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).<br>- Test the shift lock solenoid (see **SHIFT LOCK SOLENOID TEST** ).<br>- Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| Ignition switch cannot be moved from ACCESSORY (1) to LOCK (0) (key is pushed in, the shift lever in P) | - Interlock control system circuit<br>- Key interlock solenoid stuck ON<br>- Park pin switch stuck OFF<br>- Transmission range switch | - Troubleshoot the key interlock system circuit (see **KEY INTERLOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).<br>- Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| HDS does not | DLC circuit error | Troubleshoot the DLC circuit (see |

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| communicate with the PCM or the vehicle | | **DLC CIRCUIT TROUBLESHOOTING** ). |
| Engine runs, but vehicle does not move in any gear | 1. Low ATF level<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body is worn<br>4. ATF pump worn or binding<br>5. Regulator valve stuck or spring worn<br>6. ATF strainer clogged<br>7. Mainshaft worn or damaged<br>8. Final gears worn or damaged<br>9. Transmission-to-engine assembly error<br>10. Axle disengaged | • Check the ATF level, and check the ATF cooler lines for leakage and loose connections. If necessary, clean the ATF cooler lines.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check for a stored DTC, and check for loose connections.<br>• Check the line pressure.<br>• Improper alignment of ATF pump and torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the |

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| | | fluid return passage and result in damage.<br>- Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.<br>- Inspect the differential pinion gears for wear. If the differential pinion gears are worn, replace the differential assembly, replace the ATF strainer, thoroughly clean the transmission, and clean the ATF cooler and the cooler lines.<br>- Replace the torque converter.<br>- Inspect the countershaft and the secondary shaft for wear and damage. |
| Vehicle moves in 2 and R, but not in D, D3, or 1 | 1. 1st accumulator defective<br>2. 1st gears worn or damaged<br>3. 1st clutch defective | - Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>- Inspect the countershaft, the secondary shaft, and the 1st clutch for wear and damage.<br>- Check the 1st clutch pressure.<br>- Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch |

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| | | discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Vehicle moves in D, 1, and R, but not in 2 | 1. 2nd accumulator defective<br>2. 2nd gears worn or damaged<br>3. 2nd clutch defective | - Inspect the 2nd accumulator piston, the O-ring, and the spring for wear and damaged in the servo body.<br>- Check the 2nd clutch pressure.<br>- Inspect the countershaft, the secondary shaft, and the 2nd clutch for wear and damage.<br>- Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the |

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| | | clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |
| Vehicle moves in D, D3, 2, and 1, but not in R | 1. Shift solenoid valve D defective<br>2. Shift fork shaft stuck<br>3. Shift valve D defective<br>4. 5th/reverse accumulator defective<br>5. 5th clutch defective<br>6. Reverse gears worn or damaged | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a missing shift fork bolt on the shift fork shaft.<br>• Inspect the servo valve O-ring.<br>• Check the shift fork shaft detent for wear and damage.<br>• Inspect the 5th accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top |

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| | | disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the reverse selector gear teeth chamfers, and inspect the engagement teeth chamfers of the countershaft 5th gear and the reverse gear. Replace the reverse gears and the reverse selector if they are worn or damaged. If the transmission makes clicking, grinding, whirring noise, also replace the mainshaft 5th gear, the reverse idler gear, and the countershaft 5th gear. |
| Poor acceleration | 1. Shift solenoid valve A defective<br>2. Shift solenoid valve B defective<br>3. Shift solenoid valve C defective | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS. |
| Poor acceleration; flares when | 1. Low ATF level<br>2. Shift cable broken or out of | • Check the ATF level and check the ATF lines for leakage and loose connections. If necessary, |

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| starting off in D, D3, and R; stall speed high in 2 and 1, and in D and D3 in 1st and 2nd | adjustment<br>3. ATF pump worn or binding<br>4. Regulator valve stuck or spring worn<br>5. ATF strainer clogged<br>6. Torque converter check valve defective | clean the ATF lines.<br>- Check for a loose shift cable at the shift lever and the transmission control lever.<br>- Check the line pressure.<br>- Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>- Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump to seize.<br>- Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>- Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.<br>- Inspect the differential pinion gears for wear. If the differential pinion gears are worn, replace |

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| | | the differential assembly, replace the ATF strainer, thoroughly clean the transmission, and clean the ATF warmer and the ATF lines.<br>• Replace the torque converter. |
| Poor acceleration; flares when starting off in D, D3, and R; stall speed high when starting off in 2 | 2nd clutch defective | • Check the 2nd clutch pressure.<br>• Inspect the secondary shaft and the 2nd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |

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| Poor acceleration; flares when starting off in D, D3, and R; stall speed high in R | 1. Shift cable broken or out of adjustment<br>2. 5th clutch defective | • Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Poor acceleration; stall speed low in 2 and 1, and in D and D3 in 1st and 2nd | 1. Shift solenoid valve D defective<br>2. Torque converter one-way clutch defective<br>3. Engine output low<br>4. Torque converter clutch piston defective | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly. |

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| | 5. Lock-up shift valve defective | • Check the lock-up shift valve in the regulator valve body.<br>• Check the engine control system. |
| Poor acceleration; stall speed low in R | 1. Engine output low<br>2. Torque converter clutch piston defective<br>3. Lock-up shift valve defective | • Check the engine control system.<br>• Replace the torque converter assembly.<br>• Check the lock-up shift valve in the regulator valve body. |
| Engine idle vibration | 1. Low ATF level<br>2. Shift solenoid valve D defective<br>3. Drive plate defective or transmission misassembled<br>4. Engine output low<br>5. Torque converter clutch piston defective<br>6. ATF pump worn or damaged<br>7. Lock-up shift valve defective<br>8. Misassembled engine and transmission mount | • Check the ATF level and check the ATF lines for leakage and loose connections. If necessary, clean the ATF lines.<br>• Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check the transmission and the drive plate installation.<br>• Check the drive plate for wear and damage, if the drive plate is worn or damaged, replace the drive plate.<br>• Check the engine control system.<br>• Replace the torque converter assembly.<br>• Check the line pressure. |

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| | | • Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause ATF pump to seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Adjust the transmission and engine mounts by loosening and retightening the mount bolts. |
| Vehicle moves in N | 1. Excessive ATF<br>2. Foreign material in separator plate orifice<br>3. Relief valve defective | • Check the ATF level, and drain the ATF if it is overfilled.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for |

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| | 4. 1st clutch defective<br>5. 2nd clutch defective<br>6. 3rd clutch defective<br>7. 4th clutch defective<br>8. 5th clutch defective<br>9. Clearance between clutch end-plate and top disc incorrect<br>10. Needle bearing seized, worn, or damaged<br>11. Thrust washer seized, worn, or damaged | debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Check the relief valve in the main valve body.<br>• Check the 1st, 2nd, 3rd, 4th, and 5th clutch pressures.<br>• Inspect the mainshaft, the secondary shaft, the 1st, 2nd, 3rd, 4th, and 5th clutches for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the 0-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |

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| | | - Inspect the 2nd, 3rd, and 4th clutch feed pipes.<br>- If the 2nd clutch feed pipe is scored, replace the end cover.<br>- If the 3rd or 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>- Replace the secondary shaft if the bushing for the 2nd clutch feed pipe or the 4th clutch feed pipe is loose or damaged.<br>- Replace the mainshaft if the bushing for the 3rd clutch feed pipe is loose or damaged. |
| Late shift after shifting from N to D, or excessive shock when shifted into D | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective<br>3. A/T clutch pressure control solenoid valve C defective<br>4. Shift cable broken or out of adjustment<br>5. Connection between shift cable and transmission or | - Check for a stored DTC, and check for loose connections.<br>- Test the solenoid valve function with the HDS.<br>- Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings, for wear and damage.<br>- Check for a loose shift cable at the shift lever and the transmission control lever.<br>- Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>- Inspect the sensor O-ring for wear and damage.<br>- Check for a clogged orifice in |

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| | body is worn<br>6. Input shaft (mainshaft) speed sensor defective<br>7. Output shaft (countershaft) speed sensor defective<br>8. ATF temperature sensor defective<br>9. Foreign material in separator plate orifice<br>10. Servo control valve defective<br>11. 1st accumulator defective<br>12. 1st check ball stuck<br>13. Lock-up shift valve defective<br>14. 1st clutch defective | the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Check the servo control valve in the main valve body.<br>• Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the regulator valve body.<br>• Check that the 1st check ball is not stuck in the main valve body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the 1st clutch pressure.<br>• Inspect the secondary shaft and the 1st clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top |

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| | | disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Late shift after shifting from N to R, or excessive shock when shifted into R | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Shift cable broken or out of adjustment<br>4. Connection between shift cable and transmission or body is worn<br>5. Input shaft (mainshaft) speed sensor defective<br>6. Output shaft (countershaft) speed sensor defective<br>7. ATF temperature | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings, for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage.<br>• Check for a missing shift fork |

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| | sensor defective<br>8. Shift fork shaft stuck<br>9. Foreign material in separator plate orifice<br>10. Shift valve E defective<br>11. 5th/reverse accumulator defective<br>12. Lock-up shift valve defective<br>13. 5th clutch defective | bolt on the shift fork shaft.<br>• Inspect the servo valve O-ring.<br>• Check the shift fork shaft detent for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with panicles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Check shift valve D in the main valve body.<br>• Inspect the 5th accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. |

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| | | Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Late shift after shifting from D3 to 2, or 2 to 1 | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective<br>3. A/T clutch pressure control solenoid valve C defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |
| Transmission does not shift | 1. Input shaft (mainshaft) speed sensor defective<br>2. Output shaft (countershaft) speed sensor defective | • Check for a stored DTC, and check for loose connections.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage. |

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| Excessive shock or flares on all upshifts and downshifts | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Input shaft (mainshaft) speed sensor defective<br>4. Output shaft (countershaft) speed sensor defective<br>5. ATF temperature sensor defective<br>6. Foreign material in separator plate orifice | - Check for a stored DTC, and check for loose connections.<br>- Test the solenoid valve function with the HDS.<br>- Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>- Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>- Inspect the sensor O-ring for wear and damage.<br>- Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>- Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter. |
| Excessive shock or flares on 1-2 upshift or 2-1 downshift | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control | - Check for a stored DTC, and check, for loose connections.<br>- Test the solenoid valve function with the HDS. |

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|---|---|---|
| | solenoid valve A defective<br>3. A/T clutch pressure control solenoid valve B defective<br>4. A/T clutch pressure control solenoid valve C defective<br>5. 2nd clutch transmission fluid pressure switch defective<br>6. Foreign material in separator plate orifice<br>7. 1st accumulator defective<br>8. 2nd accumulator defective<br>9. 1st check ball stuck<br>10. 2nd check ball stuck<br>11. 1st clutch defective<br>12. 2nd clutch defective<br>13. Look up shift valve defective | • Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Inspect the 2nd accumulator piston, the O-ring, and the spring for wear and damage in |

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| | | the servo body.<br>• Check that the 1st check ball and the 2nd check ball are not stuck in the main valve body.<br>• Check the 1st and 2nd clutch pressures.<br>• Inspect the secondary shaft, the 1st clutch, and the 2nd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |
| Excessive shock | 1. A/T clutch | • Check for a stored DTC, and |

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| or flares on 2-3 upshift or 3-2 downshift | pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. 3rd clutch transmission fluid pressure switch defective<br>4. Foreign material in separator plate orifice<br>5. 2nd accumulator defective<br>6. 3rd accumulator defective<br>7. 2nd check ball stuck<br>8. 2nd clutch defective<br>9. 3rd clutch defective | check for loose connections.<br>- Test the solenoid valve function with the HDS.<br>- Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>- Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector.<br>- Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>- Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>- Inspect the 2nd and 3rd accumulator pistons, the O-rings, and springs for wear and damage in the servo body.<br>- Check that the 2nd check ball is not stuck in the main valve body. |

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| | | • Check the 2nd and 3rd clutch pressures.<br>• Inspect the secondary shaft, the mainshaft, the 2nd clutch, and the 3rd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd and 3rd clutch feed pipes.<br>• If the 2nd clutch feed pipe is scored, replace the end cover.<br>• If the 3rd clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |

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| | | • Replace the mainshaft if the bushing for the 3rd clutch feed pipe is loose or damaged. |
| Excessive shock or flares on 3-4 upshift or 4-3 downshift | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Foreign material in separator plate orifice<br>4. 3rd accumulator defective<br>5. 4th accumulator defective<br>6. 3rd clutch defective<br>7. 4th clutch defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 3rd and 4th accumulator pistons, the O-rings, and the springs for wear and damage in the servo body.<br>• Check the 3rd and 4th clutch pressures.<br>• Inspect the mainshaft, the |

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| | | secondary shaft, the 3rd clutch, and the 4th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 3rd and 4th clutch feed pipes.<br>• If the 3rd clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• If the 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 4th clutch feed pipe is loose or damaged.<br>• Replace the mainshaft if the bushing for the 3rd clutch feed |

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| | | pipe is loose or damaged. |
| Excessive shock or flares on 4-5 upshift or 5-4 downshift | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Foreign material in separator plate orifice<br>4. 4th accumulator defective<br>5. 5th accumulator defective<br>6. 4th clutch defective<br>7. 5th clutch defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 4th and 5th accumulator pistons, the O-rings, and the springs for wear and damage in the servo body.<br>• Check the 4th and 5th clutch pressures.<br>• Inspect the mainshaft, the secondary shaft, the 4th clutch, and the 5th clutch for wear and damage. |

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| | | • Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 4th clutch feed pipes. If the 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 4th clutch feed pipe is loose or damaged. |
| Engine flares while driving | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Shift solenoid | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |

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| | valve A defective<br>4. Shift solenoid valve B defective<br>5. Shift solenoid valve C defective | - Inspect the O-rings, and check the shift solenoid valve for seizure. |
| Noise from transmission in all shift lever positions | 1. ATF pump worn or damaged<br>2. Mainshaft bearing, countershaft bearing, or secondary shaft bearing defective | - Check the line pressure.<br>- Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>- Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump seize.<br>- Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>- Inspect the mainshaft, the countershaft, and the secondary shaft bearing for wear and damage. |
| Vehicle does not accelerate above | Torque converter one-way clutch defective | Replace the torque converter assembly. |

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| 31 mph (50 km/h) | | |
| Vibration in all shift lever positions | Drive plate defective or transmission misassembled | • Check the transmission and the drive plate installation.<br>• Check the drive plate for wear and damage, if the drive plate is worn or damaged, replace the drive plate.<br>• Check the engine control system. |
| Shock just before stopping the engine, or at the instant after the engine stopped | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |
| Shift lever does not operate smoothly | 1. Transmission range switch defective or out of adjustment<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body is worn | • Check for a stored DTC, and check for loose connections.<br>• Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and shift cable.<br>• Check for a loose shift cable at the shift lever and the transmission control lever. |
| Transmission does not shift | 1. Shift cable broken or out of | • Check for a loose shift cable at the shift lever and the |

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| into P | adjustment<br>2. Connection between shift cable and transmission or body is worn<br>3. Park mechanism defective | transmission control lever.<br>• Check the park pawl spring installation and the park lever spring installation. If installation is incorrect, install the spring correctly. Make sure that the park lever stop is not installed upside down. Check the distance between the park pawl shaft and the park lever pin. If the distance is out of tolerance, adjust the distance with the park lever stop. |
| Torque converter clutch does not disengage | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Torque converter clutch piston defective<br>4. Lock-up shift valve defective<br>5. Lock-up control valve defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the lock-up control valve in the main valve body. |
| Torque converter clutch does not | 1. Shift solenoid valve D defective | • Check for a stored DTC, and check for loose connections. |

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| operate smoothly | 2. A/T clutch pressure control solenoid valve A defective<br>3. Torque converter clutch piston defective<br>4. Torque converter check valve defective<br>5. Lock-up shift valve defective<br>6. Lock-up control valve defective | • Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly.<br>• Check the torque converter check valve in the regulator valve body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the lock-up control valve in the main valve body. |
| Torque converter clutch does not engage | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Input shaft (mainshaft) speed sensor defective<br>4. Output shaft (countershaft) speed sensor defective<br>5. Torque converter | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check the input shaft (mainshaft) speed sensor and the |

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| | clutch piston defective<br>6. Torque converter check valve defective<br>7. Lock-up shift valve defective<br>8. Lock-up control valve defective | output shaft (countershaft) speed sensor installation.<br>- Inspect the sensor O-ring for wear and damage.<br>- Replace the torque converter assembly.<br>- Check the torque converter check valve in the regulator valve body.<br>- Check the lock-up shift valve in the regulator valve body.<br>- Check the lock-up control valve in the main valve body. |
| A/T gear position indicator does not indicate shift lever positions | 1. Transmission range switch defective or out of adjustment<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body worn | - Check for a stored DTC, and check for loose connections.<br>- Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and the shift cable.<br>- Check for a loose shift cable at the shift lever and the transmission control lever. |
| Speedometer and odometer do not work | Output shaft (countershaft) speed sensor defective | - Check for a stored DTC, and check for loose connections.<br>- Check the output shaft (countershaft) speed sensor installation.<br>- Inspect the sensor O-ring. |
| Engine does not rev to high rpm, | Engine rocker arm defective | Check the engine rocker arms. |

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| and the transmission upshifts at low rpm (engine at normal operating temperature) | | |

## COMPONENT LOCATION INDEX

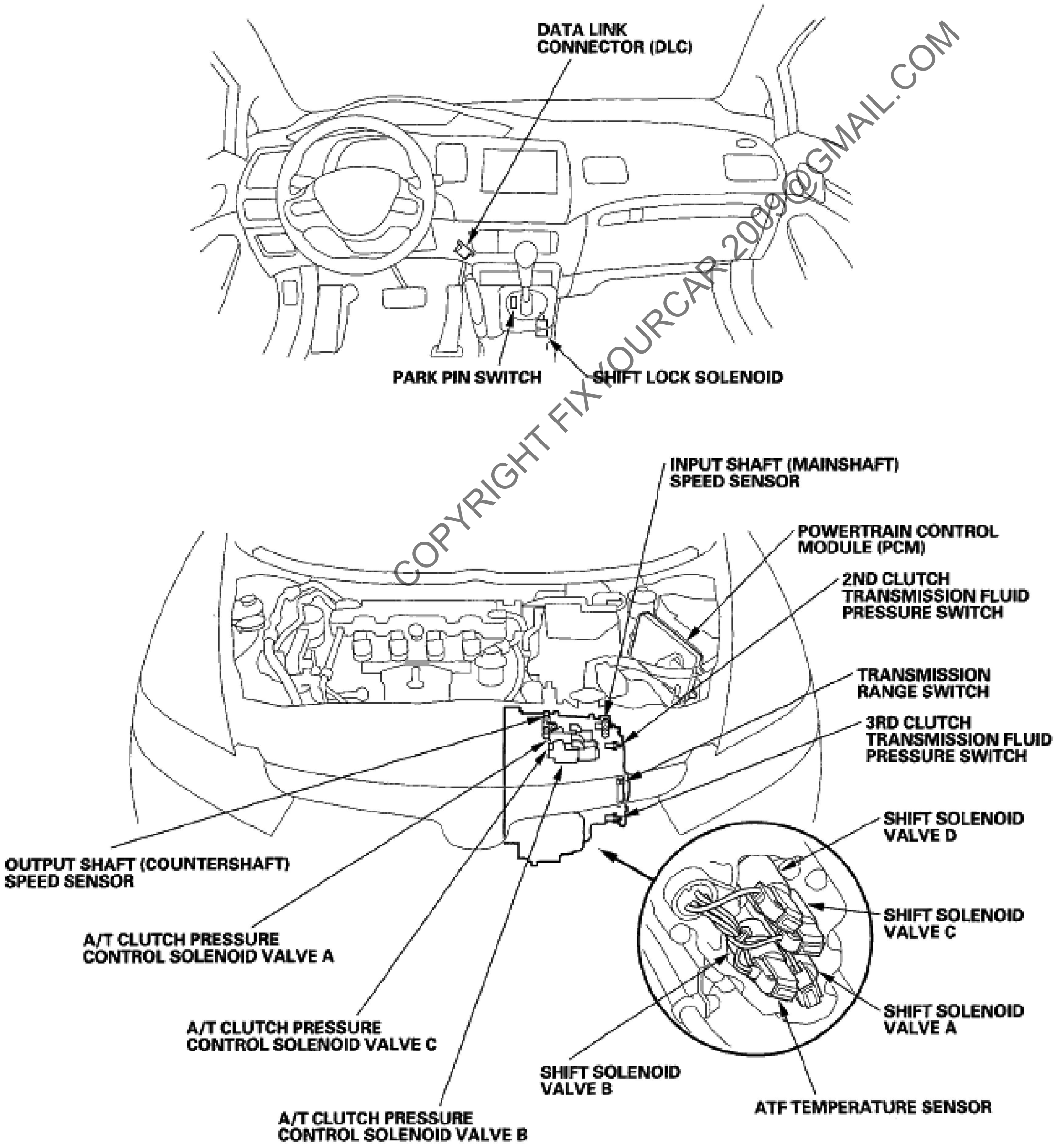
DATA LINK CONNECTOR (DLC)
PARK PIN SWITCH
SHIFT LOCK SOLENOID
INPUT SHAFT (MAINSHAFT) SPEED SENSOR
POWERTRAIN CONTROL MODULE (PCM)
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
TRANSMISSION RANGE SWITCH
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
SHIFT SOLENOID VALVE D
OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR
SHIFT SOLENOID VALVE C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A
SHIFT SOLENOID VALVE A
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C
SHIFT SOLENOID VALVE B
ATF TEMPERATURE SENSOR
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B

**Fig. 16: Identifying Automatic Transmission Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYSTEM DESCRIPTION

### General Operation

The automatic transmission is a combination of a three-element torque converter and triple-shaft electronically controlled unit which provides five speeds forward and one in reverse. The entire unit is positioned in line with the engine.

#### Torque Converter, Shafts, Gears, and Clutches

The torque converter consists of a pump, turbine, and stator assembly in a single unit. The converter housing (pump) is connected to the engine crankshaft and turns as the engine runs. Around the outside of the torque converter is a ring gear which meshes with the starter drive gear when the engine is being started. The entire torque converter assembly serves as a flywheel while transmitting power to the transmission mainshaft. The transmission has three parallel shafts; the mainshaft, the countershaft, and the secondary shaft. The mainshaft is in line with the engine crankshaft, and includes the 3rd and 5th clutches, and gears for 3rd, 5th, reverse, and idler. The mainshaft reverse gear is integral with the mainshaft 5th gear. The countershaft includes the gears for 1st, 2nd, 3rd, 4th-5th, reverse, park, and the final drive. The countershaft 4th-5th gear enables the shared use of the secondary shaft 4th gear and the mainshaft 5th gear. The countershaft 4th-5th gear and the countershaft reverse gear can be locked to the countershaft providing the 4th, 5th or reverse gear, depending on which way the selector is moved. The final drive gear is integral with the countershaft. The secondary shaft includes the 1st, 2nd, and 4th clutches, and gears for 1st, 2nd, 4th, and idler. The idler gear shaft is located between the mainshaft and the secondary shaft, and the idler gear transmits power between the mainshaft and the secondary shaft. The gears on the mainshaft and the secondary shaft are in constant mesh with those on the countershaft. When certain combinations of gears in the transmission are engaged by the clutches, power is transmitted through the mainshaft, then to the secondary shaft to the countershaft, or through the mainshaft to the countershaft to provide drive.

#### Electronic Control

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions. The PCM is located in the engine compartment.

**Hydraulic Control**

The valve bodies include the main valve body, the regulator valve body, and the servo body. They are bolted to the torque converter housing. The main valve body contains the manual valve, cut valve B, shift valves A, C, and D, the relief valve, the lock-up control valve, the cooler check valve, the servo control valve, and the ATF pump gears. The regulator valve body contains the regulator valve, the torque converter check valve, the lock-up shift valve, the 1st accumulator, and the 3rd accumulator. The servo body contains the servo valve, shift valve B, cut valve A, the accumulators for 2nd, 4th, and 5th, and shift solenoid valves A, B, C, and D. Fluid from the regulator passes through the manual valve to the various control valves. The 2nd, 3rd, and 4th clutches receive fluid from their respective feed pipes, and the 1st and the 5th clutches receive fluid from the internal hydraulic circuit.

**Shift Control Mechanism**

To shift gears, the PCM controls shift solenoid valves A, B, C, and D, and A/T clutch pressure control solenoid valves A, B, and C, while receiving input signals from various sensors and switches located throughout the vehicle. The shift solenoid valves shift the positions of the shift valves to switch the port to send hydraulic pressure to the clutch. A/T clutch pressure control solenoid valves A, B, and C regulate their respective pressure, and pressurize the clutches to engage them and their corresponding gears.

**Lock-up Mechanism**

The lock-up mechanism operates in D (1st, 2nd, 3rd, 4th, and 5th gears), and D3 (1st, 2nd and 3rd gears). The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with the hydraulic control, the PCM optimizes the timing and the volume of the lock-up mechanism. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D pressure switches the lock-up shift valve lock-up on and off. A/T clutch pressure control solenoid valve A and the lock-up control valve control the volume of the lock-up conditions.

**Gear Selection**

The shift lever has seven positions; P: PARK, R: REVERSE, N: NEUTRAL, D: DRIVE 1st through 5th gear ranges, D3: DRIVE 1st through 3rd gear ranges, 2: 2nd gear, and 1: 1st gear.

## SHIFT LEVER GEAR POSITION

| Position | Description |
|---|---|
| P: PARK | Front wheels locked; park pawl engaged with park gear on countershaft. All clutches are released. |
| R: REVERSE | Reverse; reverse selector engaged with countershaft reverse gear and 5th clutch engaged. |
| N: NEUTRAL | All clutches are released. |
| D: DRIVE (1st through 5th) | General driving; starts off in 1st, shifts automatically to 2nd, 3rd, 4th, then 5th, depending on vehicle speed and throttle position. Downshifts through 4th, 3rd, 2nd, and 1st on deceleration to stop. The lock-up mechanism operates in 1st, 2nd, 3rd, 4th, and 5th gears. |
| D3: DRIVE (1st through 3rd) | Used for rapid acceleration at highway speeds and general driving, up-hill and down-hill driving; starts off in 1st, shifts automatically to 2nd, then 3rd, depending on vehicle speed and throttle position. Downshifts through 2nd to 1st on deceleration to stop. The lock-up mechanism operates in 1st, 2nd, and 3rd gears. |

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| 2: SECOND | Used for engine braking or better traction starting off on loose or slippery surfaces; stays in 2nd gear; does not shift up and down. |
| 1: FIRST | Used for engine braking; stays in 1st gear; does not upshift. |

Starting the engine is possible only in P and N because of a slide-type neutral-safety switch.

### Automatic Transmission Gear Position Indicator

The A/T gear position indicator in the gauge control module shows which shift lever position has been selected without having look down at the shift lever.

### Clutches and Gears

The five-speed automatic transmission uses hydraulically-actuated clutches to engage or disengage the transmission gears. When hydraulic pressure is introduced into the clutch drum, the clutch piston moves. This presses the friction discs and the steel plates together, locking them so they do not slip. Power is then transmitted through the engaged clutch pack to its hub-mounted gear. Likewise, when the hydraulic pressure is bled from the clutch pack, the piston releases the friction discs and the steel plates, and they are free to slide past each other. This allows the gear to spin independently on its shaft, transmitting no power.

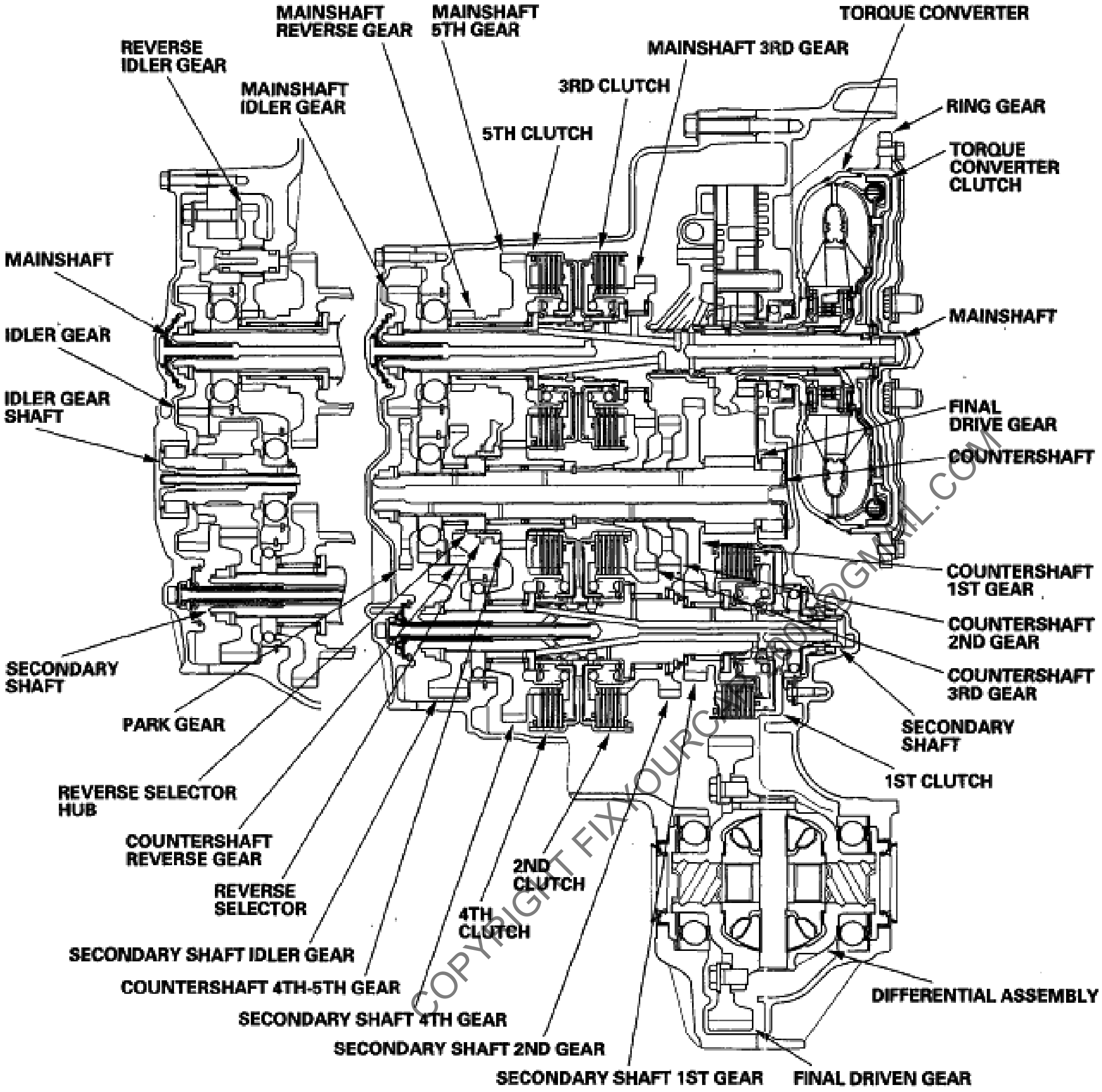
MAINSHAFT REVERSE GEAR
MAINSHAFT 5TH GEAR
TORQUE CONVERTER
REVERSE IDLER GEAR
MAINSHAFT 3RD GEAR
MAINSHAFT IDLER GEAR
3RD CLUTCH
RING GEAR
5TH CLUTCH
TORQUE CONVERTER CLUTCH
MAINSHAFT
MAINSHAFT
IDLER GEAR
IDLER GEAR SHAFT
FINAL DRIVE GEAR
COUNTERSHAFT
COUNTERSHAFT 1ST GEAR
COUNTERSHAFT 2ND GEAR
SECONDARY SHAFT
COUNTERSHAFT 3RD GEAR
PARK GEAR
SECONDARY SHAFT
1ST CLUTCH
REVERSE SELECTOR HUB
COUNTERSHAFT REVERSE GEAR
REVERSE SELECTOR
2ND CLUTCH
4TH CLUTCH
SECONDARY SHAFT IDLER GEAR
COUNTERSHAFT 4TH-5TH GEAR
DIFFERENTIAL ASSEMBLY
SECONDARY SHAFT 4TH GEAR
SECONDARY SHAFT 2ND GEAR
SECONDARY SHAFT 1ST GEAR
FINAL DRIVEN GEAR

**Fig. 17: Section View Of Clutches And Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1st Clutch**

The 1st clutch engages/disengages 1st gear, and is located at the right end of the secondary shaft, opposite the end cover. The 1st clutch is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

**2nd Clutch**

The 2nd clutch engages/disengages 2nd gear, and is located at the middle of the secondary shaft. The 2nd clutch is joined back-to-back to the 4th clutch, and is supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

### 3rd Clutch

The 3rd clutch engages/disengages 3rd gear, and is located at the middle of the mainshaft. The 3rd clutch is joined back-to-back to the 5th clutch, and is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

### 4th Clutch

The 4th clutch engages/disengages 4th gear, and is located at the middle of the secondary shaft. The 4th clutch is joined back-to-back to the 2nd clutch, and is supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

### 5th Clutch

The 5th clutch engages/disengages 5th gear, as well as reverse gear, and is located at the middle of the mainshaft. The 5th clutch is joined back-to-back to the 3rd clutch, and is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

### Gear Operation

Gears on the mainshaft:

- 3rd gear is engages/disengages with the mainshaft by the 3rd clutch.
- 5th gear is engaged/disengages with the mainshaft by the 5th clutch.
- Reverse gear is engaged/disengaged with the mainshaft by the 5th clutch.
- Idler gear is splined with the mainshaft, and rotates with the mainshaft.

Gears on the countershaft:

- Final drive gear is integral with the countershaft.
- 1st, 2nd, 3rd, and park gears are splined with the countershaft, and rotate with the countershaft.
- 4th-5th gear and reverse gear rotate freely from the countershaft. The reverse selector engages 4th-5th gear and reverse gear with the reverse selector hub. The reverse selector hub is splined to the countershaft so 4th-5th gear and

reverse gear engage with the countershaft.

Gears on the secondary shaft:

- 1st gear is engaged/disengaged with the secondary shaft by the 1st clutch.
- 2nd gear is engaged/disengaged with the secondary shaft by the 2nd clutch.
- 4th gear is engages/disengages with the secondary shaft by the 4th clutch.
- Idler gear is splined with the secondary shaft, and rotates with the secondary shaft.

The idler gear on the idler gear shaft transmits power between the mainshaft and the secondary shaft.

The reverse idler gear transmits power from the mainshaft reverse gear to the countershaft reverse gear, and change rotational direction of the countershaft to reverse.

**Power Flow**

**P Position**

Hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. The countershaft is locked by the park pawl interlocking the park gear.

**N Position**

Engine power transmitted from the torque converter drives the mainshaft idler gear, the idler gear shaft idler gear, and the secondary shaft idler gear, but hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. In this position, the position of the reverse selector differs according to whether the shift lever shifted from D or R:

- When shifted from D, the reverse selector engages with the countershaft 4th-5th gear and the reverse selector hub, and the 4th-5th gear engages with the countershaft.
- When shifted from R, the reverse selector engages with the countershaft reverse gear and the reverse selector hub, and the reverse gear engages with the

countershaft.

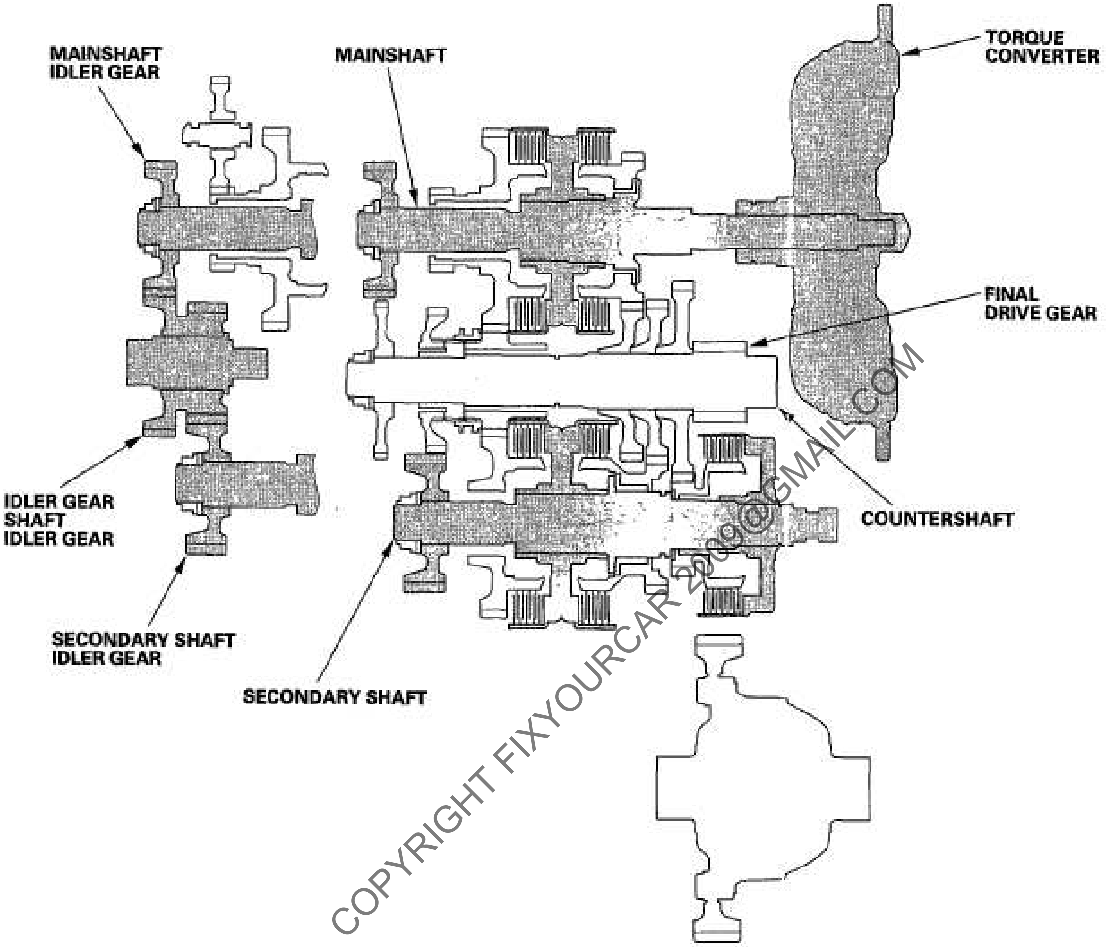
MAINSHAFT IDLER GEAR
MAINSHAFT
TORQUE CONVERTER
FINAL DRIVE GEAR
IDLER GEAR SHAFT IDLER GEAR
COUNTERSHAFT
SECONDARY SHAFT IDLER GEAR
SECONDARY SHAFT

**Fig. 18: Automatic Transmission - Power Flow Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D, D3 Position**

In D and D3, the optimum gear is automatically selected from 1st, 2nd, 3rd, and 5th gears in D; 1st, 2nd, and 3rd gears in D3 according to conditions such as the balance between the throttle opening (engine loading) and the vehicle speed.

**In 1st Gear and 1 Position**

- Hydraulic pressure is applied to the 1st clutch, then the 1st clutch engages the secondary shaft 1st gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler

gear and the secondary shaft idler gear.

- The secondary shaft 1st gear drives the countershaft 1st gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

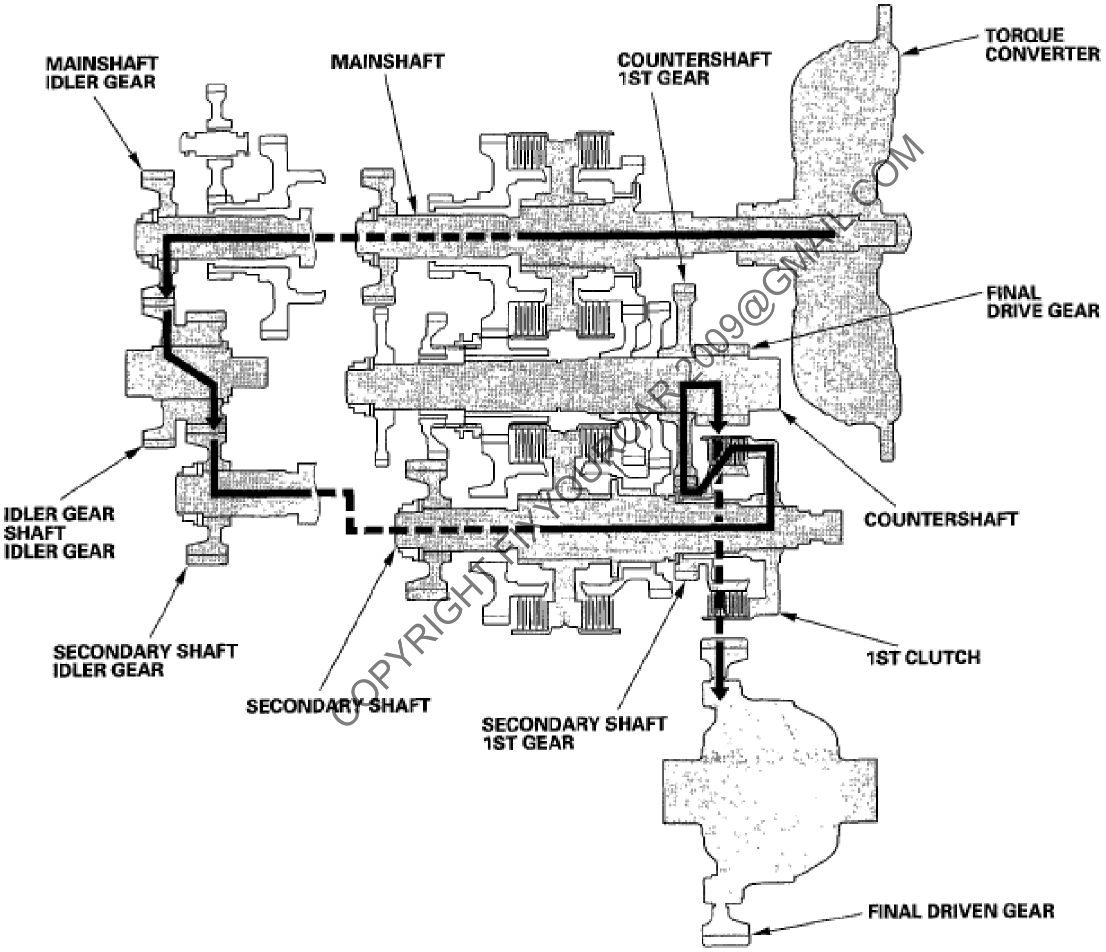
MAINSHAFT IDLER GEAR
MAINSHAFT
COUNTERSHAFT 1ST GEAR
TORQUE CONVERTER
FINAL DRIVE GEAR
COUNTERSHAFT
IDLER GEAR SHAFT IDLER GEAR
SECONDARY SHAFT IDLER GEAR
SECONDARY SHAFT
SECONDARY SHAFT 1ST GEAR
1ST CLUTCH
FINAL DRIVEN GEAR

**Fig. 19: Automatic Transmission - Power Flow Diagram - 1st Gear And 1 Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 2nd Gear and 2 Position**

- Hydraulic pressure is applied to the 2nd clutch, then the 2nd clutch engages the secondary shaft 2nd gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler

gear and the secondary shaft idler gear.

- The secondary shaft 2nd gear drives the countershaft 2nd gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

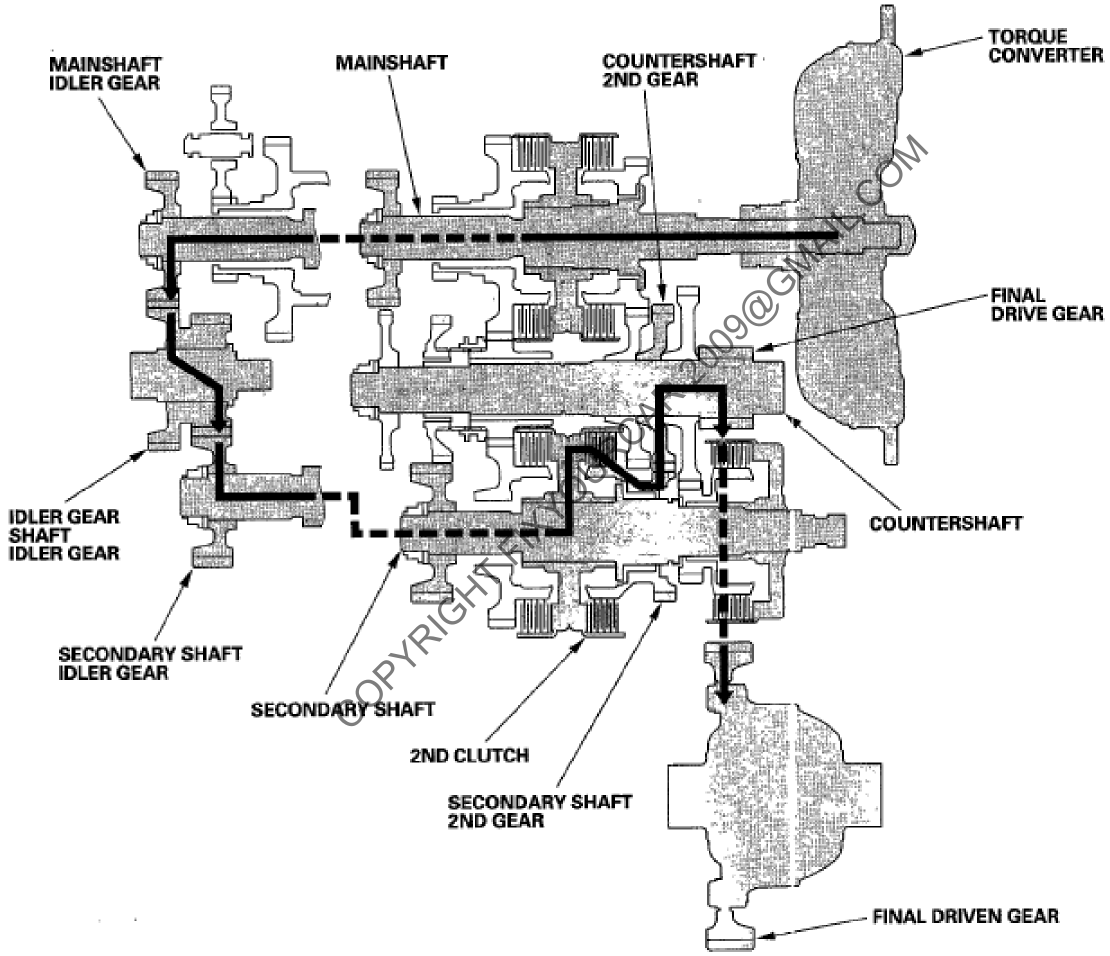
MAINSHAFT IDLER GEAR
MAINSHAFT
COUNTERSHAFT 2ND GEAR
TORQUE CONVERTER
FINAL DRIVE GEAR
COUNTERSHAFT
IDLER GEAR SHAFT IDLER GEAR
SECONDARY SHAFT IDLER GEAR
SECONDARY SHAFT
2ND CLUTCH
SECONDARY SHAFT 2ND GEAR
FINAL DRIVEN GEAR

**Fig. 20: Automatic Transmission - Power Flow Diagram - 2nd Gear And 2 Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 3rd Gear**

- Hydraulic pressure is applied to the 3rd clutch, then the 3rd clutch engages the mainshaft 3rd gear with the mainshaft.
- The mainshaft 3rd gear drives the countershaft 3rd gear and the countershaft.

- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

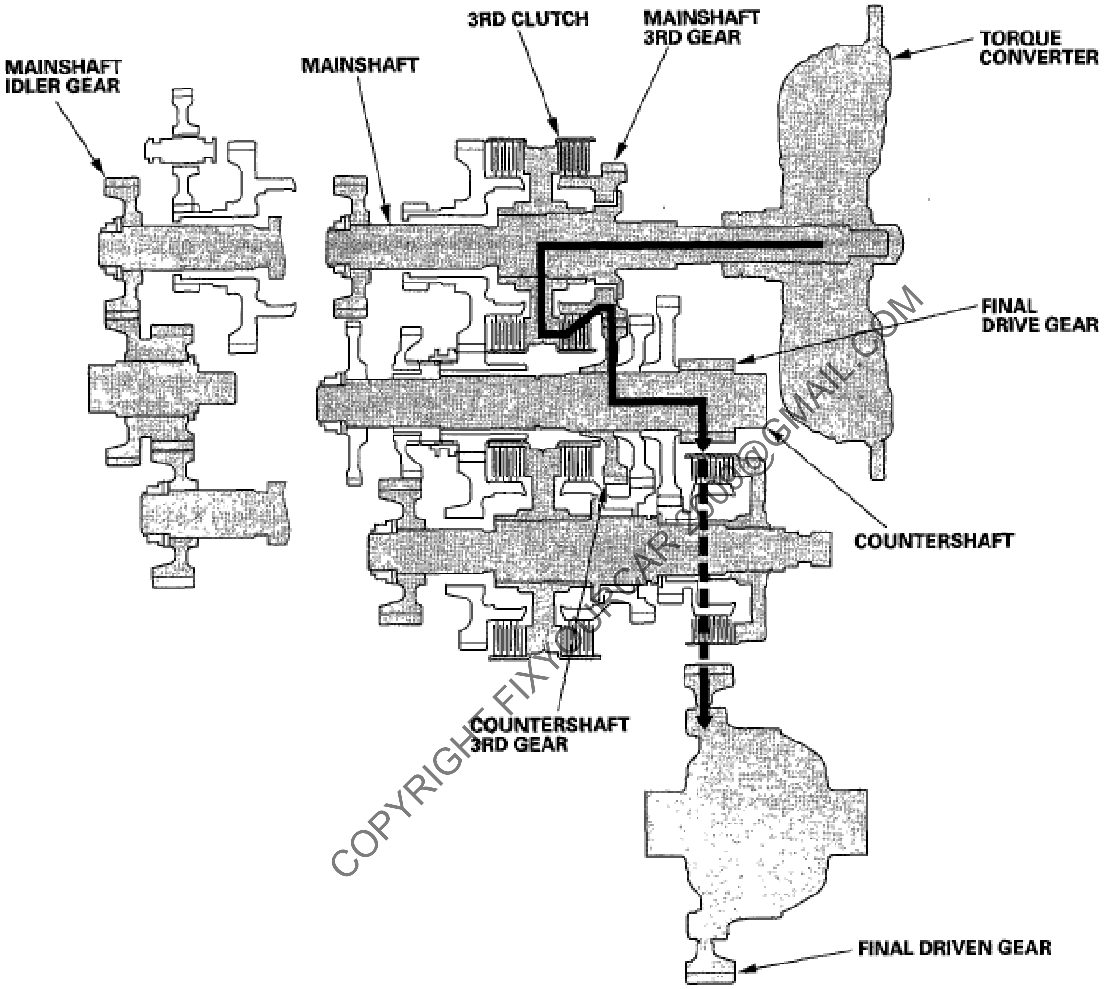
3RD CLUTCH
MAINSHAFT 3RD GEAR
TORQUE CONVERTER
MAINSHAFT IDLER GEAR
MAINSHAFT
FINAL DRIVE GEAR
COUNTERSHAFT
COUNTERSHAFT 3RD GEAR
FINAL DRIVEN GEAR

**Fig. 21: Automatic Transmission - Power Flow Diagram - 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### In 4th Gear

- Hydraulic pressure is applied to the 4th clutch, then the 4th clutch engages the secondary shaft 4th gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler gear and the secondary shaft idler gear.
- The secondary shaft 4th gear drives the countershaft 4th-5th gear.
- The countershaft 4th-5th gear drives the countershaft via the reverse selector,

which drives the reverse selector hub.

- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

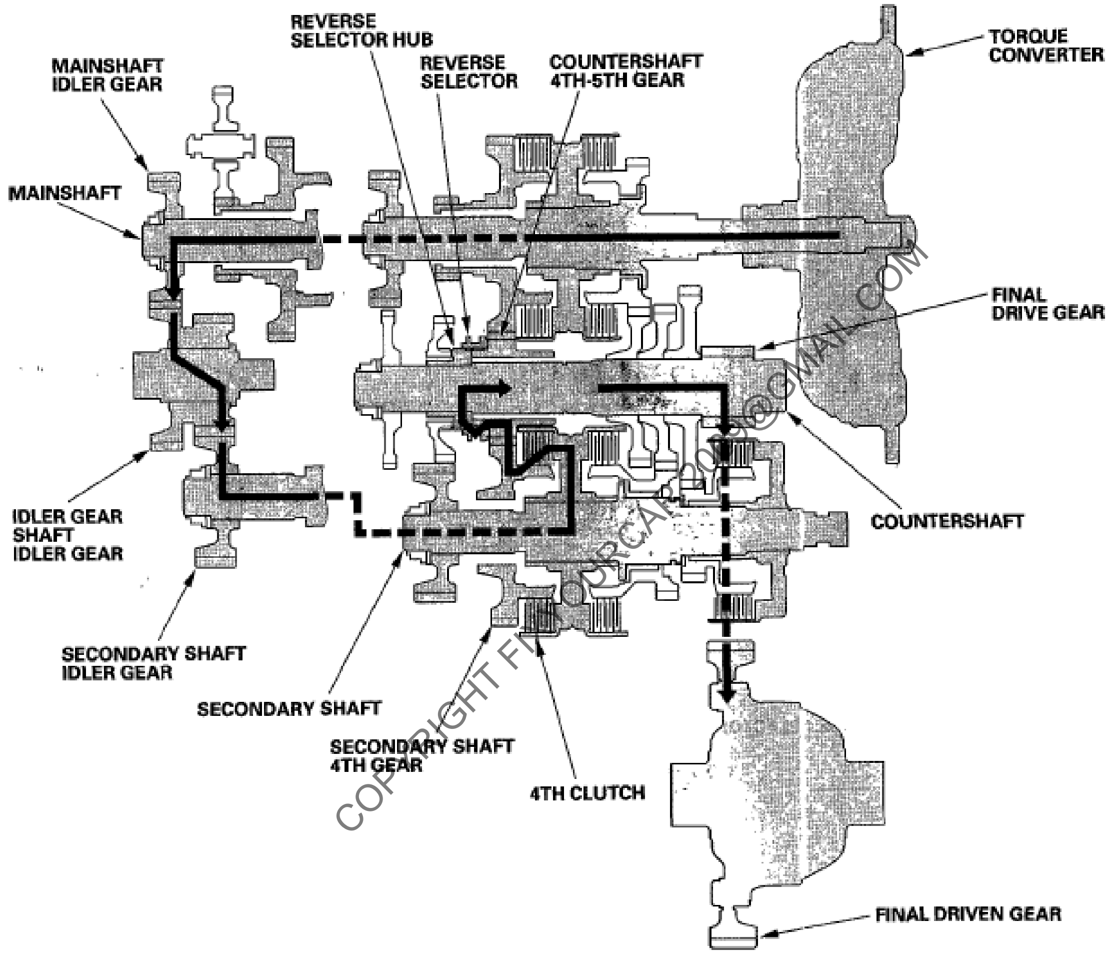
REVERSE SELECTOR HUB
MAINSHAFT IDLER GEAR
REVERSE SELECTOR
COUNTERSHAFT 4TH-5TH GEAR
TORQUE CONVERTER
MAINSHAFT
FINAL DRIVE GEAR
COUNTERSHAFT
IDLER GEAR SHAFT IDLER GEAR
SECONDARY SHAFT IDLER GEAR
SECONDARY SHAFT
SECONDARY SHAFT 4TH GEAR
4TH CLUTCH
FINAL DRIVEN GEAR

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**Fig. 22: Automatic Transmission - Power Flow Diagram - 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### In 5th Gear

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft 4th-5th gear and the reverse selector hub while the shift lever is in forward range; D, D3, 2, and 1.
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages the mainshaft 5th gear with the mainshaft.
- The mainshaft 5th gear drives the countershaft 4th-5th gear.

- The countershaft 4th-5th gear drives the countershaft via the reverse selector, which drives the reverse selector hub.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

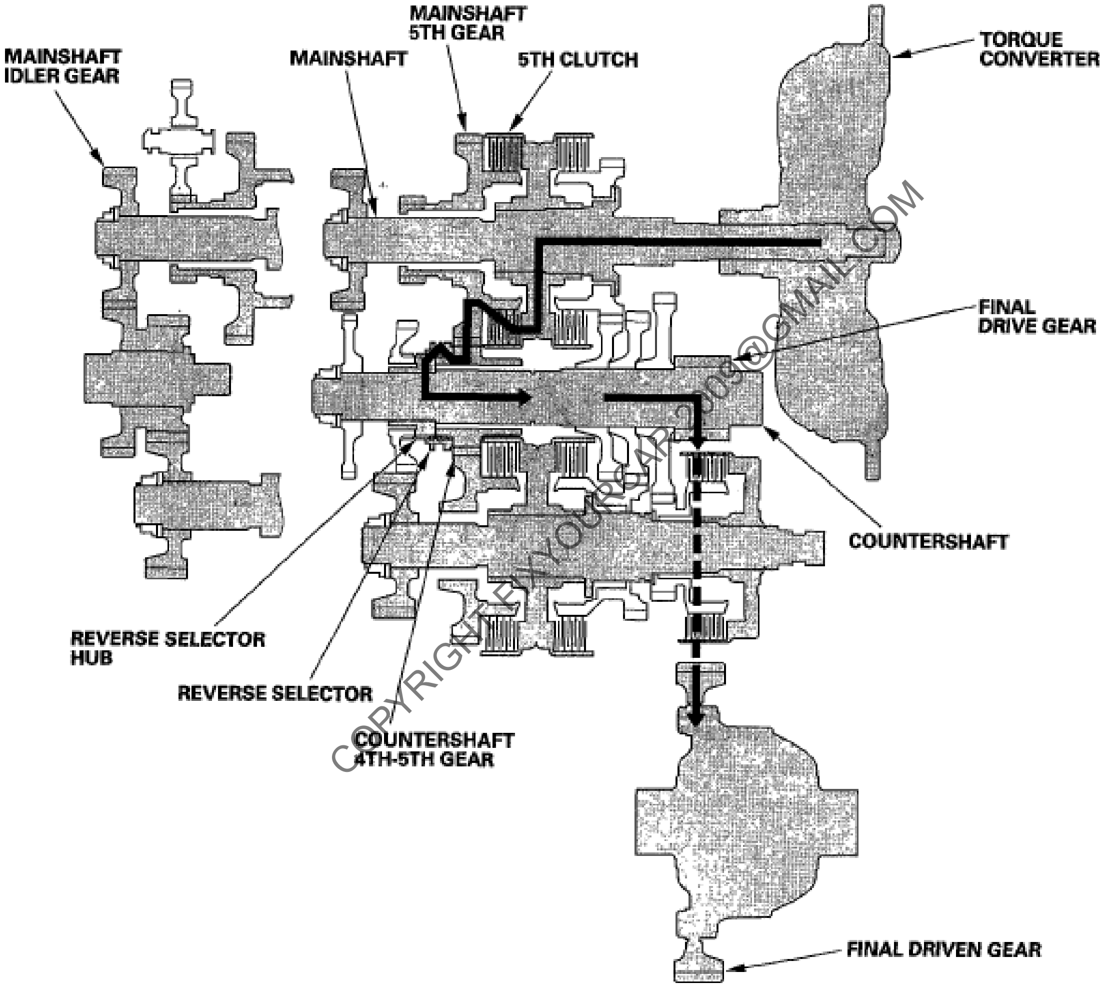
MAINSHAFT 5TH GEAR
MAINSHAFT IDLER GEAR
MAINSHAFT
5TH CLUTCH
TORQUE CONVERTER
FINAL DRIVE GEAR
COUNTERSHAFT
REVERSE SELECTOR HUB
REVERSE SELECTOR
COUNTERSHAFT 4TH-5TH GEAR
FINAL DRIVEN GEAR

**Fig. 23: Automatic Transmission - Power Flow Diagram - 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### R Position

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft reverse gear and the reverse selector hub while the shift lever is in R.
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages

the mainshaft reverse gear with the mainshaft.

- The mainshaft reverse gear drives the countershaft reverse gear via the reverse idler gear.
- The rotational direction of the countershaft reverse gear is changed by the reverse idler gear.
- The countershaft reverse gear drives the countershaft via the reverse selector, which drives the reverse selector hub.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

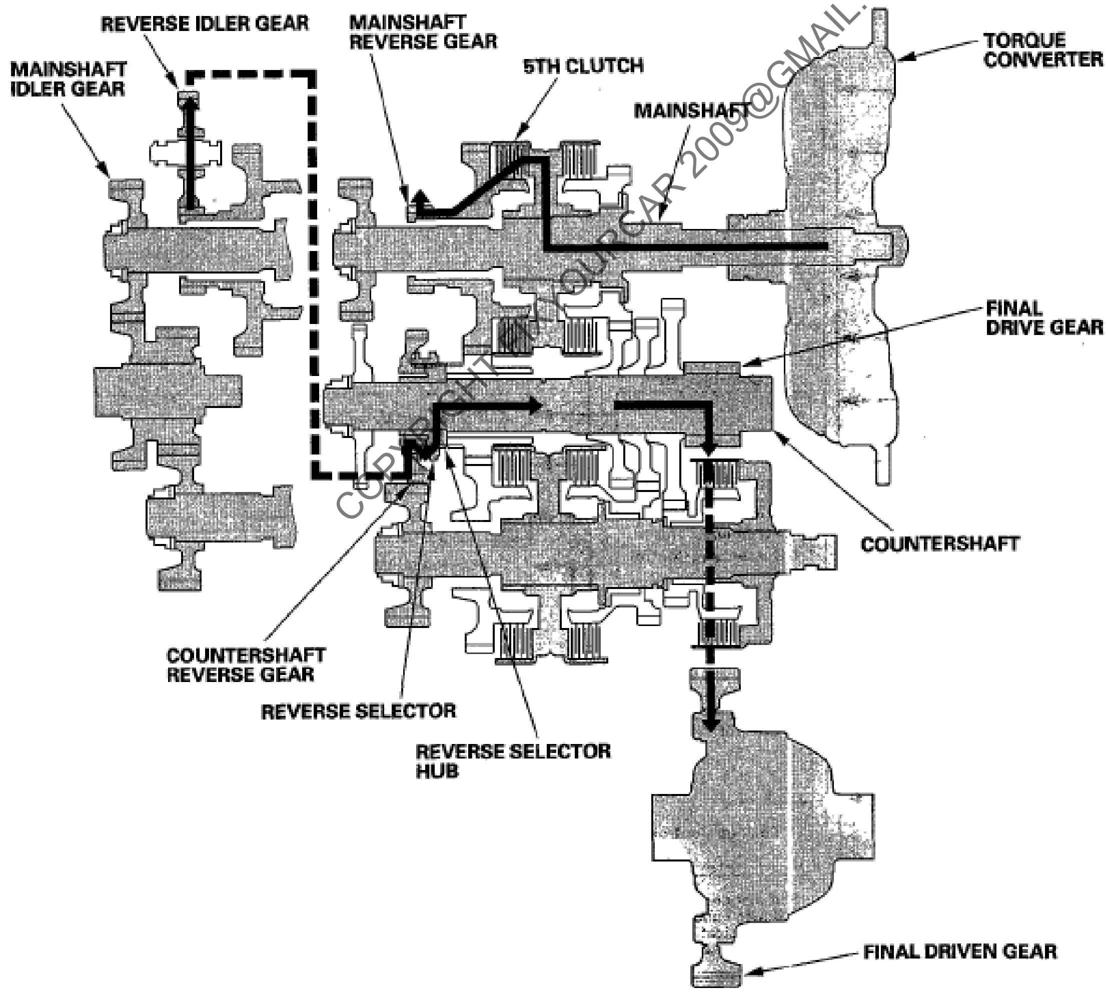
REVERSE IDLER GEAR
MAINSHAFT REVERSE GEAR
MAINSHAFT IDLER GEAR
5TH CLUTCH
MAINSHAFT
TORQUE CONVERTER
FINAL DRIVE GEAR
COUNTERSHAFT
COUNTERSHAFT REVERSE GEAR
REVERSE SELECTOR
REVERSE SELECTOR HUB
FINAL DRIVEN GEAR

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**Fig. 24: Automatic Transmission - Power Flow Diagram - R Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Electronic Control System

**Electronic Control**

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions.

The PCM receives input signals from the sensors, switches, and other control units, processes data, and outputs signals for the engine control system and A/T control system. The A/T control system includes shift control, grade logic control, clutch pressure control, and lock-up control. The PCM switches the shift solenoid valves and the A/T clutch pressure control solenoid valves to control shifting transmission gears and lock-up torque converter clutch.

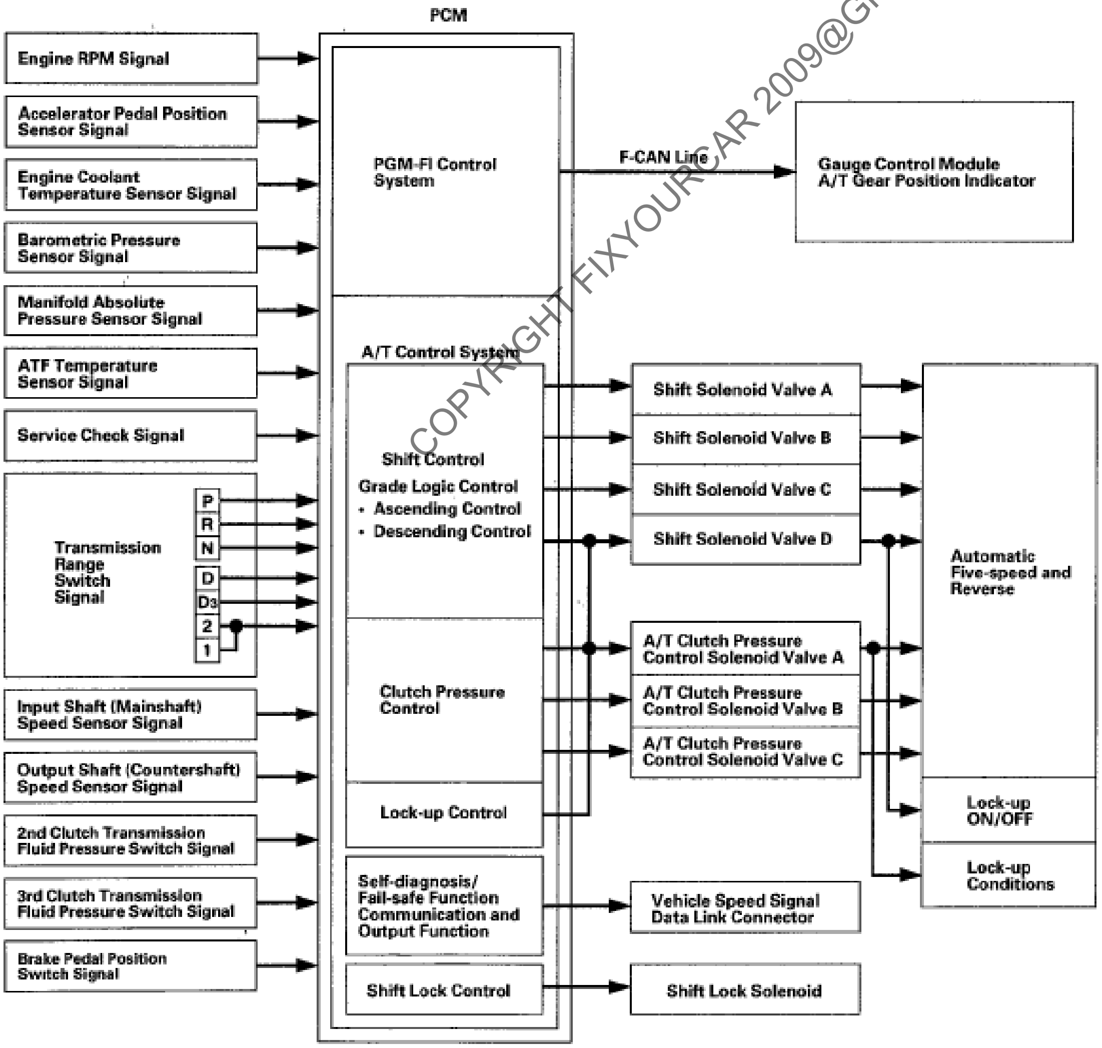
PCM
Engine RPM Signal
Accelerator Pedal Position Sensor Signal
Engine Coolant Temperature Sensor Signal
Barometric Pressure Sensor Signal
Manifold Absolute Pressure Sensor Signal
ATF Temperature Sensor Signal
Service Check Signal
Transmission Range Switch Signal
P
R
N
D
D3
2
1
Input Shaft (Mainshaft) Speed Sensor Signal
Output Shaft (Countershaft) Speed Sensor Signal
2nd Clutch Transmission Fluid Pressure Switch Signal
3rd Clutch Transmission Fluid Pressure Switch Signal
Brake Pedal Position Switch Signal
PGM-FI Control System
F-CAN Line
Gauge Control Module A/T Gear Position Indicator
A/T Control System
Shift Control
Grade Logic Control
• Ascending Control
• Descending Control
Clutch Pressure Control
Lock-up Control
Self-diagnosis/ Fail-safe Function Communication and Output Function
Shift Lock Control
Shift Solenoid Valve A
Shift Solenoid Valve B
Shift Solenoid Valve C
Shift Solenoid Valve D
A/T Clutch Pressure Control Solenoid Valve A
A/T Clutch Pressure Control Solenoid Valve B
A/T Clutch Pressure Control Solenoid Valve C
Vehicle Speed Signal Data Link Connector
Shift Lock Solenoid
Automatic Five-speed and Reverse
Lock-up ON/OFF
Lock-up Conditions

**Fig. 25: Electronic Control System Diagram**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Shift Control

The PCM instantly determines which gear should be selected by various signals sent from the sensors and the switches, and actuates shift solenoid valves A, B, C, and D to control gear selection.

The shift solenoid valves are a normally closed type. When a shift solenoid valve is turned ON by the PCM, its port opens and the pressure from the shift solenoid valve (s) moves to the shift valves. When a shift solenoid valve is turned OFF by the PCM, its port closes, cutting off the pressure to the shift valves.

The combination of driving signals to shift solenoid valves A, B, C, and D and their respective gear position are shown in the table.

## SHIFT LEVER GEAR POSITION

| Shift lever Position | Gear Position | Shift Solenoid Valves | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| D, D3 | Shifting from N | OFF | OFF | OFF | OFF |
| | Stays in 1st | OFF | ON | OFF | ON or OFF |
| | Shifting gears between 1st and 2nd | ON | ON | OFF | ON or OFF |
| | Stays in 2nd | ON | OFF | OFF | ON or OFF |
| | Shifting gears between 2nd and 3rd | OFF | OFF | OFF | ON or OFF |
| | Stays in 3rd | OFF | OFF | ON | ON or OFF |
| D | Shifting gears between 3rd and 4th | ON | OFF | ON | ON or OFF |

| | | | | | |
|---|---|---|---|---|---|
| | Stays in 4th | ON | ON | ON | ON or OFF |
| | Shifting gears between 4th and 5th | OFF | ON | ON | ON or OFF |
| | Stays in 5th | OFF | ON | OFF | ON or OFF |
| 2 | 2nd | ON | OFF | OFF | ON or OFF |
| 1 | 1st | OFF | ON | OFF | ON or OFF |
| N | Neutral | OFF | OFF | OFF | OFF |
| R | Shifting from P and N | OFF | OFF | ON | ON |
| | Stays in reverse | OFF | ON | ON | ON |
| | Reverse inhibit control | ON | OFF | ON | OFF |
| P | Park | OFF | OFF | OFF | ON |

### Shift Control - Grade Logic Control

The grade logic control system has been adopted to control shifting in D. To control shifting while the vehicle is ascending or descending a slope, the PCM compares actual driving conditions with programmed driving conditions, based on the input from the accelerator pedal position sensor, the throttle position sensor, the engine coolant temperature sensor, the barometric pressure sensor, the brake pedal position switch signal, and the shift lever position signal.

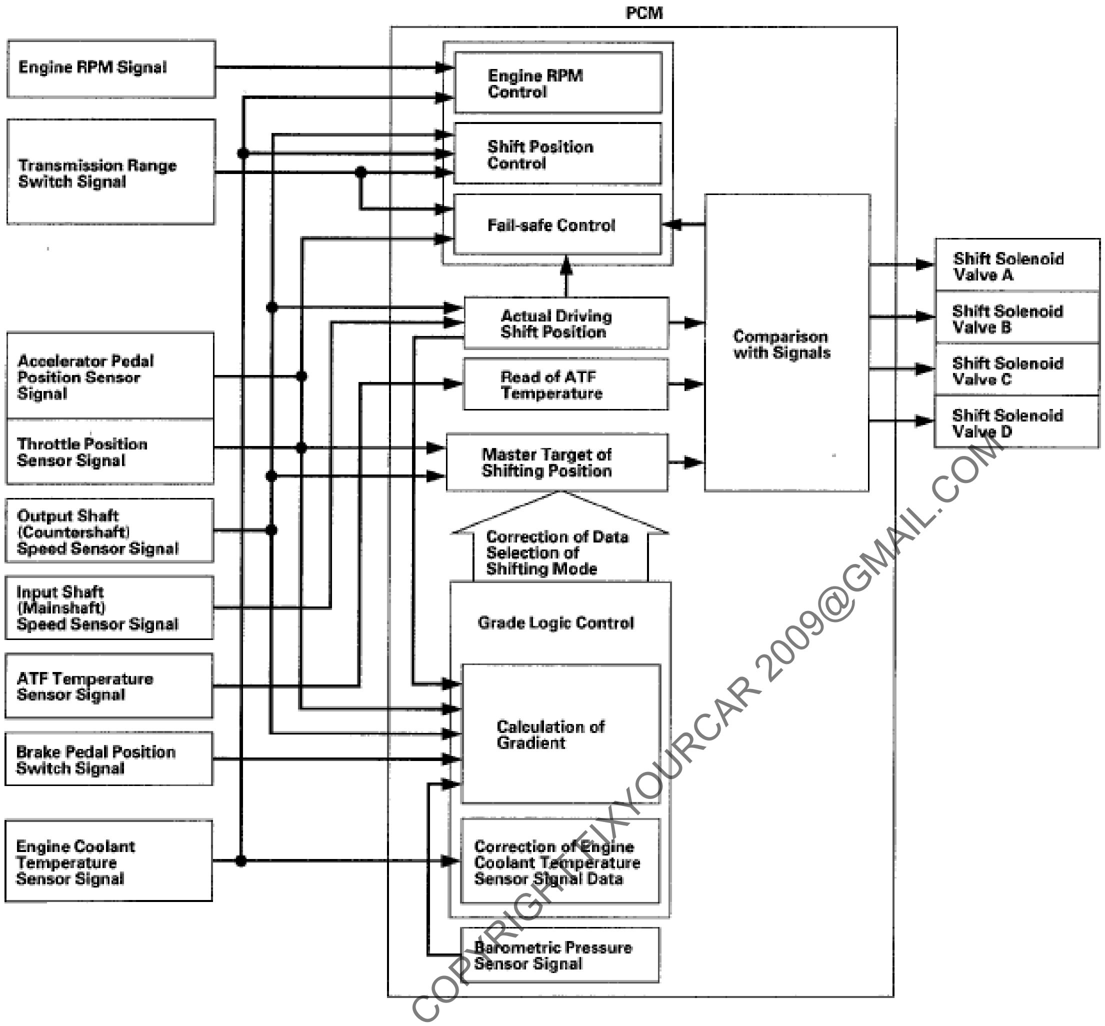
PCM
Engine RPM Signal
Transmission Range Switch Signal
Accelerator Pedal Position Sensor Signal
Throttle Position Sensor Signal
Output Shaft (Countershaft) Speed Sensor Signal
Input Shaft (Mainshaft) Speed Sensor Signal
ATF Temperature Sensor Signal
Brake Pedal Position Switch Signal
Engine Coolant Temperature Sensor Signal
Engine RPM Control
Shift Position Control
Fail-safe Control
Actual Driving Shift Position
Read of ATF Temperature
Master Target of Shifting Position
Correction of Data Selection of Shifting Mode
Grade Logic Control
Calculation of Gradient
Correction of Engine Coolant Temperature Sensor Signal Data
Barometric Pressure Sensor Signal
Comparison with Signals
Shift Solenoid Valve A
Shift Solenoid Valve B
Shift Solenoid Valve C
Shift Solenoid Valve D

**Fig. 26: Shift Control - Grade Logic Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Grade Logic Control: Ascending Control**

When the PCM determines that the vehicle is climbing a hill in D, the PCM extends the engagement area of 2nd gear, 3rd gear, and 4th gear to prevent the transmission from frequently shifting between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, so the vehicle can run smooth and have more power when needed.

**NOTE:** **Shift commands stored in the PCM between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, enable the PCM to automatically select the most suitable gear according to the magnitude of a gradient.**

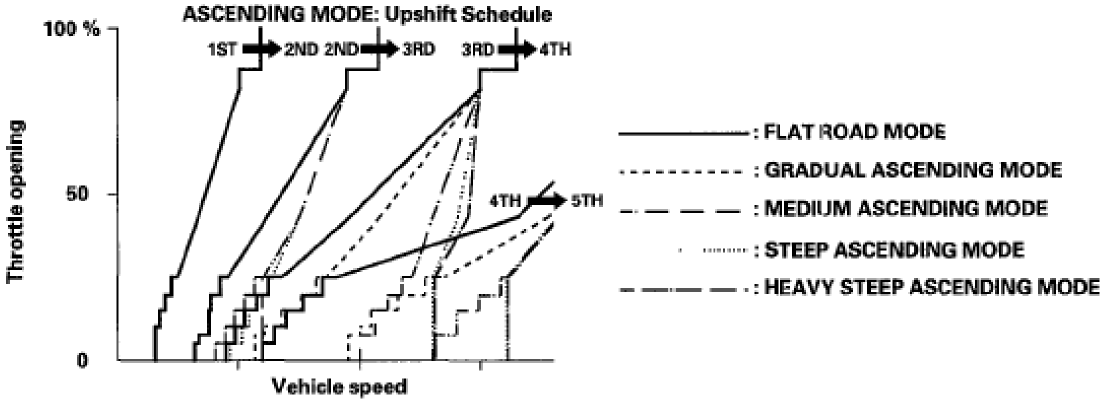

**Fig. 27: Grade Logic Control - Ascending Control Graph**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Grade Logic Control: Descending Control

When the PCM determines that the vehicle is going down a hill in D, the shift-up speed from 4th to 5th gear, 3rd to 4th gear, and from 2nd to 3rd (when the throttle is closed) becomes faster than the set speed for flat road driving to extend the 4th gear, 3rd gear, and 2nd gear engagement areas. This, in combination with engine braking from the deceleration lock-up, achieves smooth driving when the vehicle is descending. There are three descending modes with different 4th gear driving areas, 3rd gear driving areas and 2nd gear driving areas according to the magnitude of a gradient stored in the PCM. When the vehicle is in 5th or 4th gear and you are decelerating while applying the brakes on a steep hill, the transmission will downshift to a lower gear. When you accelerate, the transmission will then return to a higher gear.

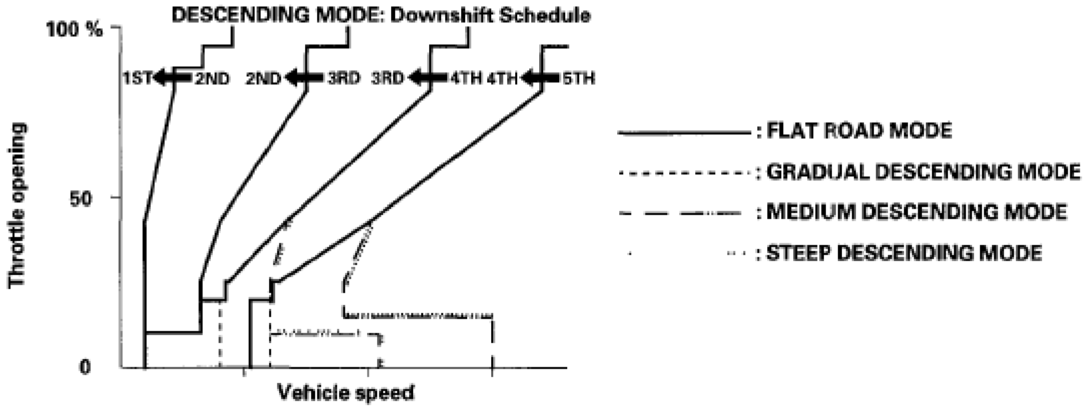

**Fig. 28: Grade Logic Control - Descending Control Graph**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Clutch Pressure Control

The PCM actuates A/T clutch pressure control solenoid valves A, B, and C to control the clutch pressure. When shifting between gears, the clutch pressure regulated by A/T clutch pressure control solenoid valves A, B, and C engages and disengages the clutch smoothly.

The PCM receives input signals from the various sensors and switches, processes data, and outputs current to A/T clutch pressure control solenoid valves A, B, and C.

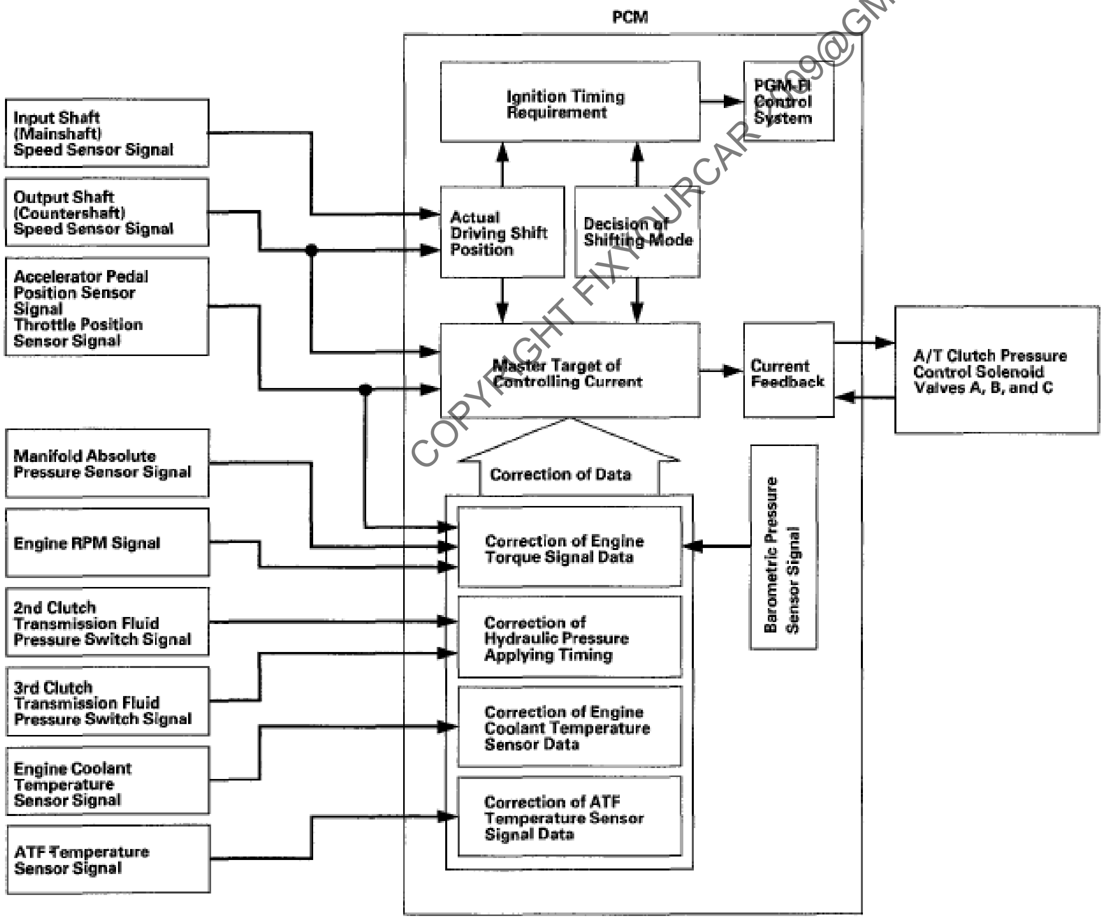
PCM
Input Shaft (Mainshaft) Speed Sensor Signal
Output Shaft (Countershaft) Speed Sensor Signal
Accelerator Pedal Position Sensor Signal Throttle Position Sensor Signal
Manifold Absolute Pressure Sensor Signal
Engine RPM Signal
2nd Clutch Transmission Fluid Pressure Switch Signal
3rd Clutch Transmission Fluid Pressure Switch Signal
Engine Coolant Temperature Sensor Signal
ATF Temperature Sensor Signal
Ignition Timing Requirement
PGM-FI Control System
Actual Driving Shift Position
Decision of Shifting Mode
Master Target of Controlling Current
Current Feedback
A/T Clutch Pressure Control Solenoid Valves A, B, and C
Correction of Data
Correction of Engine Torque Signal Data
Correction of Hydraulic Pressure Applying Timing
Correction of Engine Coolant Temperature Sensor Data
Correction of ATF Temperature Sensor Signal Data
Barometric Pressure Sensor Signal

**Fig. 29: Clutch Pressure Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Lock-up Control

Shift solenoid valve D controls the hydraulic pressure to switch the lock-up shift valve and lock-up ON and OFF. The PCM actuates shift solenoid valve D and A/T clutch pressure control solenoid valve A to start lock-up. A/T clutch pressure control solenoid valve A applies and regulates hydraulic pressure to the lock-up control valve to control the volume of the lock-up. The lock-up mechanism operates in D (1st, 2nd, 3rd, 4th, and 5th gears) and in D3 (1st, 2nd, and 3rd gears).

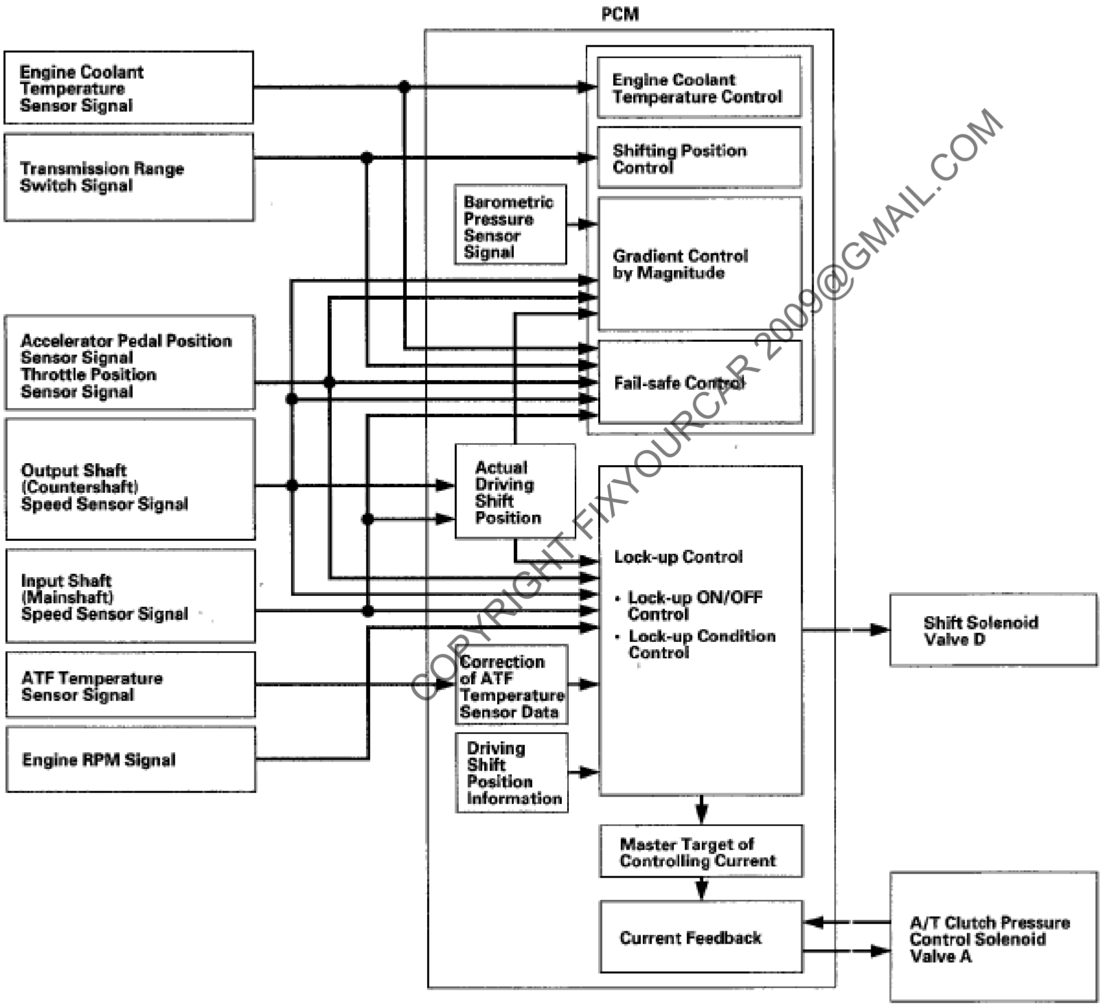
PCM
Engine Coolant Temperature Sensor Signal
Transmission Range Switch Signal
Accelerator Pedal Position Sensor Signal Throttle Position Sensor Signal
Output Shaft (Countershaft) Speed Sensor Signal
Input Shaft (Mainshaft) Speed Sensor Signal
ATF Temperature Sensor Signal
Engine RPM Signal
Barometric Pressure Sensor Signal
Actual Driving Shift Position
Correction of ATF Temperature Sensor Data
Driving Shift Position Information
Engine Coolant Temperature Control
Shifting Position Control
Gradient Control by Magnitude
Fail-safe Control
Lock-up Control
• Lock-up ON/OFF Control
• Lock-up Condition Control
Master Target of Controlling Current
Current Feedback
Shift Solenoid Valve D
A/T Clutch Pressure Control Solenoid Valve A

**Fig. 30: Lock-Up Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### PCM A/T Control System Electrical Connections

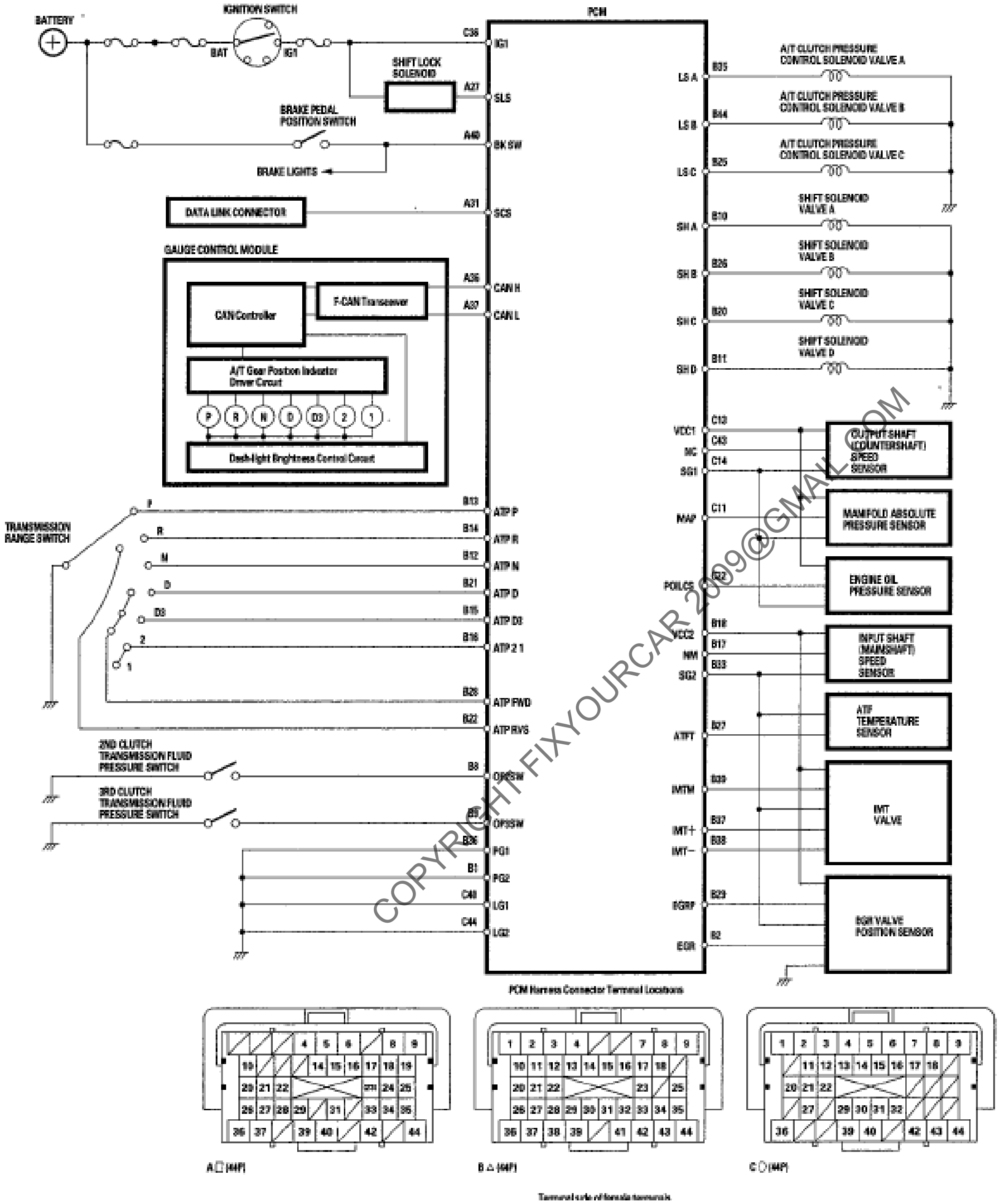
BATTERY
IGNITION SWITCH
BAT
IG1
PCM
C38 IG1
SHIFT LOCK SOLENOID
A27 SLS
BRAKE PEDAL POSITION SWITCH
A40 BK SW
BRAKE LIGHTS
DATA LINK CONNECTOR
A31 SCS
GAUGE CONTROL MODULE
CAN Controller
F-CAN Transceiver
A/T Gear Position Indicator Driver Circuit
P R N D D3 2 1
Dash-light Brightness Control Circuit
A26 CAN H
A37 CAN L
TRANSMISSION RANGE SWITCH
P R N D D3 2 1
B13 ATP P
B14 ATP R
B12 ATP N
B21 ATP D
B15 ATP D3
B16 ATP 2 1
B28 ATP FWD
B22 ATP RVS
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
B8 OP2SW
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
B9 OP3SW
B36 PG1
B1 PG2
C40 LG1
C44 LG2
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A
LS A B35
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B
LS B B44
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C
LS C B25
SHIFT SOLENOID VALVE A
SH A B10
SHIFT SOLENOID VALVE B
SH B B26
SHIFT SOLENOID VALVE C
SH C B20
SHIFT SOLENOID VALVE D
SH D B11
VCC1 C13
NC C43
SG1 C14
OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR
MAP C11
MANIFOLD ABSOLUTE PRESSURE SENSOR
POILCS C22
ENGINE OIL PRESSURE SENSOR
VCC2 B18
NM B17
SG2 B33
INPUT SHAFT (MAINSHAFT) SPEED SENSOR
ATFT B27
ATF TEMPERATURE SENSOR
IMTM B39
IMT+ B37
IMT− B38
IMT VALVE
EGRP B29
EGR B2
EGR VALVE POSITION SENSOR
PCM Harness Connector Terminal Locations
A (44P)
B (44P)
C (44P)
Terminal side of female terminals

Fig. 31: PCM A/T Control System - Circuit Diagram
Courtesy of AMERICAN HONDA MOTOR CO., INC.

### PCM A/T Control System Inputs and Outputs

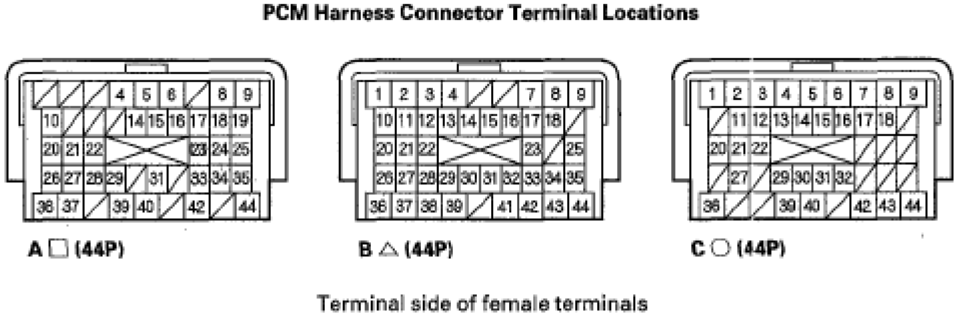
PCM Harness Connector Terminal Locations
A □ (44P)
B △ (44P)
C ○ (44P)
Terminal side of female terminals

**Fig. 32: Identifying PCM Harness Connector Terminal Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## PCM CONNECTOR A [] (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| A27 | PNK | SLS (SHIFT LOCK SOLENOID) | Drives shift lock solenoid | With ignition switch ON (II), in P, brake pedal pressed, and accelerator released: Battery voltage |
| A31 | BRN | SCS (SERVICE CHECK SIGNAL) | Detects service check signal | With service check signal shorted using the HDS: About 0 V<br>With service check signal |

| | | | | |
|---|---|---|---|---|
| | | | | opened<br>About 5.0 V |
| A36 | WHT | CAN H (CAN COMMUNICATION SIGNAL HIGH) | Sends and receives communication signal | With ignition switch ON (II): About 2.5 V (pulses) |
| A37 | RED | CAN L (CAN COMMUNICATION SIGNAL LOW) | Sends and receives communication signal | With ignition switch ON (II): About 2.5 V (pulses) |
| A40 | LT GRN | BK SW (BRAKE PEDAL POSITION SWITCH) | Detects brake pedal position switch signal | With brake pedal pressed: Battery voltage<br>With Brake pedal released: About 0 V |

**NOTE:**
**Standard battery voltage is about 12 V.**

## PCM CONNECTOR B (TRIANGLE SYMBOL) (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| B1 | BLK | PG2 (POWER GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| B2 | BLU/RED | EGR (EXHAUST | Drives EGR | With EGR |

| | | | | |
|---|---|---|---|---|
| | | GAS RECIRCULATION (EGR) VALVE) | valve | operating: Duty controlled<br>With EGR not operating: About 0 V |
| B8 | BLU/YEL | OP2SW (2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH) | Detects 2nd clutch transmission fluid pressure switch signal | With ignition switch ON (II):<br>• Without 2nd clutch pressure: About 5.0 V<br>• With 2nd clutch pressure: About 0 V |
| B9 | BLK/RED | OP3SW (3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH) | Detects 3rd clutch transmission fluid pressure switch signal | With ignition switch ON (II):<br>• Without 3rd clutch pressure: About 5.0 V<br>• With 3rd clutch pressure: About 0 V |
| B10 | BLU | SH A (SHIFT SOLENOID VALVE A) | Drivers shift solenoid valve A | With engine running in 2, D (in 2nd and 4th gears), and D3 (in 2nd gear): |

| | | | | |
|---|---|---|---|---|
| | | | | Battery voltage<br>With engine running in P, R, N, 1, and D (in 1st, 3rd, and 5th gears), and D3 (in 1st and 3rd gears)<br>About 0 V |
| B11 | GRN/RED | SH D (SHIFT SOLENOID VALVE D) | Drivers shift solenoid valve D | With engine running in P and R: Battery voltage<br>With engine running in N: About 0 V |
| B12 | RED/BLK | ATP N (TRANSMISSION RANGE SWITCH N) | Detects transmission range switch N position signal | In N: About 0 V<br>In any position other than N: About 5.0 V |
| B13 | BLU/BLK | ATP P (TRANSMISSION RANGE SWITCH P) | Detects transmission range switch P position signal | In P: About 0 V<br>In any position other than P: About 5.0 V |
| B14 | WHT/GRN | ATP R (TRANSMISSION RANGE SWITCH R) | Detects transmission range switch R position signal | In R: About 0 V<br>In any position other than R: About 5.0 V |
| B15 | RED | ATP D3 (TRANSMISSION RANGE SWITCH D3) | Detects transmission range switch D3 position | In D3: About 0 V<br>In any position other than D3: |

| | | | | |
|---|---|---|---|---|
| | | | signal | Battery voltage |
| B16 | BRN | ATP 2-1 (TRANSMISSION RANGE SWITCH 2-1) | Detects transmission range switch 2 position and 1 position signal | In 2 and 1: About 0 V<br>In any position other than 2 and 1: Battery voltage |
| B17 | WHT/RED | NM (INPUT SHAFT (MAINSHAFT) SPEED SENSOR) | Detects input shaft (mainshaft) speed sensor signal | With the ignition switch ON (II): About 0 V or about 5.0 V<br>With engine idling in N: About 2.5 V (pulses) |
| B18 | YEL/BLU | VCC2 (SENSOR VOLTAGE) | Provides sensor reference voltage | With the ignition switch ON (II): About 5.0 V |
| B20 | GRN | SH C (SHIFT SOLENOID VALVE C) | Drives shift solenoid valve C | With engine running in R, D3 (in 3rd gear), and D (in 3rd gear): Battery voltage<br>With engine running in P, N, 2, D3 (in 1st and 2nd gears), and D (in 1st, 2nd, 4th, and 5th gears): About 0 V |
| B21 | YEL/GRN | ATP D | Detects | In D: About 0 |

| | | | | |
|---|---|---|---|---|
| | | (TRANSMISSION RANGE SWITCH D) | transmission range switch D position signal | V<br>In any position other than D: Battery voltage |
| B22 | YEL | ATP RVS (TRANSMISSION RANGE SWITCH RVS) | Detects transmission range switch R position signal | In R: About 0 V<br>In any position other than R: Battery voltage |
| B25 | BLU/WHT | LS C (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C) | Drives A/T clutch pressure control solenoid valve C | With ignition switch ON (II) Current controlled |
| B26 | GRN/WHT | SH B (SHIFT SOLENOID VALVE B) | Drives shift solenoid valve B | With engine running in R, 1, D3 (in 1st gear), and D (in 1st gear) Battery voltage<br>With engine running in P, N, 2, D3 (in 2nd and 3rd gears), and D (in 2nd, 3rd, 4th, and 5th gears): About 0 V |
| B27 | BRN/RED | ATFT (ATF TEMPERATURE SENSOR) | Detects ATF temperature sensor signal | With igniting switch ON (II): 0.2-4.8 V (about 1.8 V at operating |

| | | | | |
|---|---|---|---|---|
| | | | | temperature) (depending on ATF temperature) |
| B28 | BLU/YEL | ATP FWD (TRANSMISSION RANGE SWITCH FWD) | Detects transmission range switch D, D3, and 2 positions signal | In D, D3, and 2: About 0 V<br>In any position other than D, D3, and 2: Battery voltage |
| B29 | WHT/BLK | EGRP (EXHAUST GAS RECIRCULATION (EGR) VALVE POSITION SENSOR) | Detects EGR valve position sensor signal | With engine running. 1.2-3.0 V (depending on EGR valve lift) |
| B33 | GRN/YEL | SG2 (SENSOR GROUND) | Sensor ground | Less than 1.0 V at all times |
| B35 | WHT | LS A (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A) | Drives A/T clutch pressure control solenoid valve A | With ignition switch ON (II): Current controlled |
| B36 | BLK | PG1 (POWER GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| B37 | BRN | IMT + (INTAKE MANIFOLD TUNING (IMT) ACTUATOR + SIDE) | Drives IMT actuator | With ignition switch ON (II). Battery voltage |
| B38 | WHT/BLK | IMT - (INTAKE MANIFOLD TUNING (IMT) ACTUATOR - SIDE) | Ground for IMT actuator | With ignition switch ON (II): About 4.5 V (between IMT |

| | | | | |
|---|---|---|---|---|
| | | | | + terminal and IMT - terminal) |
| B39 | WHT | IMTM (INTAKE MANIFOLD TUNING (IMT) VALVE MONITOR) | Detects IMT valve position | With ignition switch ON (II): About 0 V<br>With engine speed about 5,200 rpm: About 5.0 V |
| B44 | BRN/WHT | LS B (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B) | Drives A/T clutch pressure control solenoid valve B | With ignition switch ON (II): Current controlled |

**NOTE:**
**Standard battery voltage is about 12 V.**

## PCM CONNECTOR C o (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| C11 | GRN/RED | MAP (MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR) | Detects MAP sensor signal | With ignition switch ON (II): About 3.0 V<br>At idle: About 1.0 V (depending on engine speed) |
| C13 | YEL/RED | VCC1 (SENSOR | Provides sensor | With |

| | | | | |
|---|---|---|---|---|
| | | VOLTAGE) | reference voltage | ignition switch ON (II): About 5 0 V |
| C14 | GRN/WHT | SG1 (SENSOR GROUND) | Sensor ground | Less than 1.0 V at all times |
| C22 | WHT/BLK | POILCS (ENGINE OIL PRESSURE (EOP) SENSOR) | Detects EOP sensor signal | With ignition switch ON (II). About 0.5 V<br>With engine running: About 0.7 V (depending on engine oil pressure) |
| C36 | BLK/YEL | IG1 (IGNITION SIGNAL) | Detects ignition switch signal | With ignition switch ON (II): Battery voltage |
| C40 | BRN/YEL | LG1 (LOGIC GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| C43 | BLK/BLU | NC (OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR) | Detects output shaft (countershaft) speed sensor signal | With ignition switch ON (II): About 0 V or about 5 0 V<br>With vehicle moving About 2.5 V |

| | | | | |
|---|---|---|---|---|
| | | | | (pulses) |
| C44 | BRN/YEL | LG2 (LOGIC GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |

**NOTE:**

**Standard battery voltage is about 12 V.**

### Hydraulic Controls

The valve body includes the main valve body, the regulator valve body, and the servo body. The ATF pump is driven by splines on the end of the torque converter which is attached to the engine. Fluid flows through the regulator valve to maintain specified pressure through the main valve body to the manual valve, directing pressure to each of the clutches. Shift solenoid valves A, B, C, and D are mounted on the servo body. A/T clutch pressure control solenoid valves A, B, and C are mounted on the transmission housing.

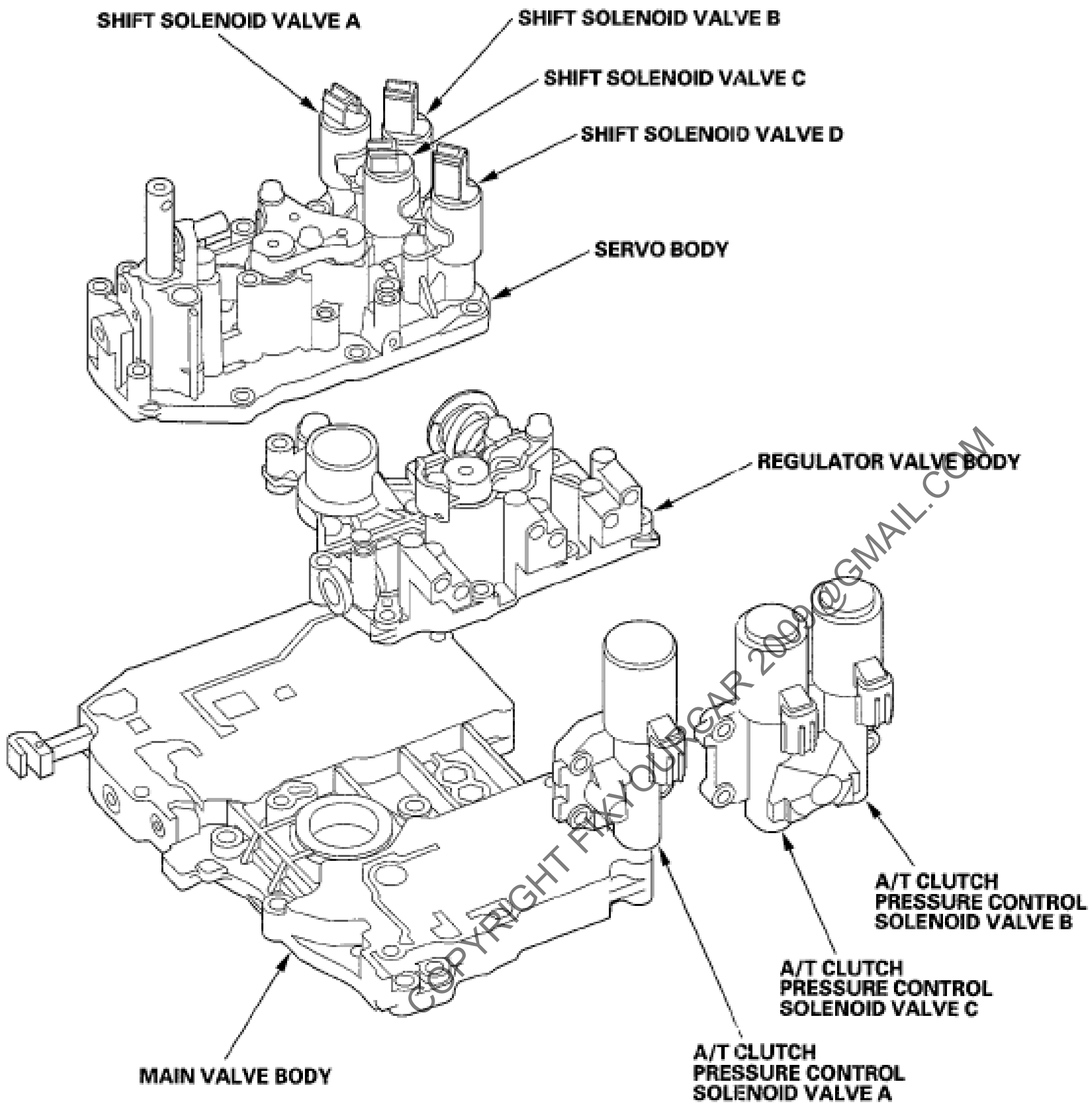
SHIFT SOLENOID VALVE A
SHIFT SOLENOID VALVE B
SHIFT SOLENOID VALVE C
SHIFT SOLENOID VALVE D
SERVO BODY
REGULATOR VALVE BODY
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A
MAIN VALVE BODY

**Fig. 33: Identifying A/T Clutch Pressure Control Solenoid Valves Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Main Valve Body**

The main valve body contains the manual valve, cut valve B, shift valves A, C, and D, the relief valve, the lock-up control valve, the cooler check valve, the servo control valve, and the ATF pump gears. The primary function of the main valve body is to switch fluid pressure on and off to control hydraulic pressure going to the hydraulic control system.

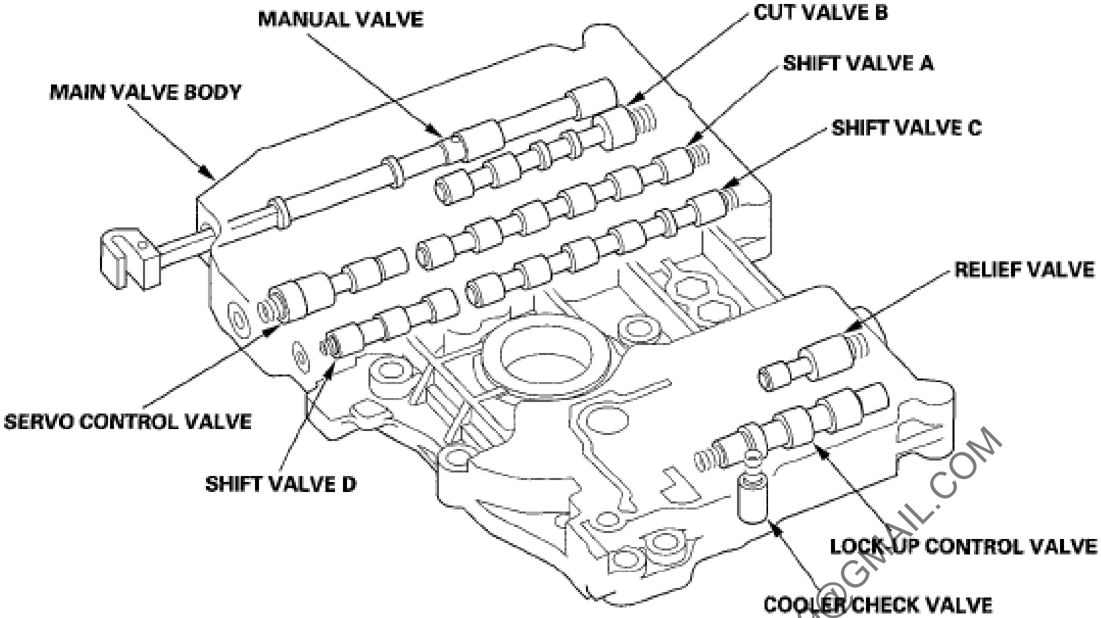
MANUAL VALVE
CUT VALVE B
SHIFT VALVE A
MAIN VALVE BODY
SHIFT VALVE C
RELIEF VALVE
SERVO CONTROL VALVE
SHIFT VALVE D
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE

**Fig. 34: Identifying Main Valve Body Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Regulator Valve Body**

The regulator valve body is located on the main valve body. The regulator valve body contains the regulator valve, the torque converter check valve, the lock-up shift valve, the 1st accumulator, and the 3rd accumulator.

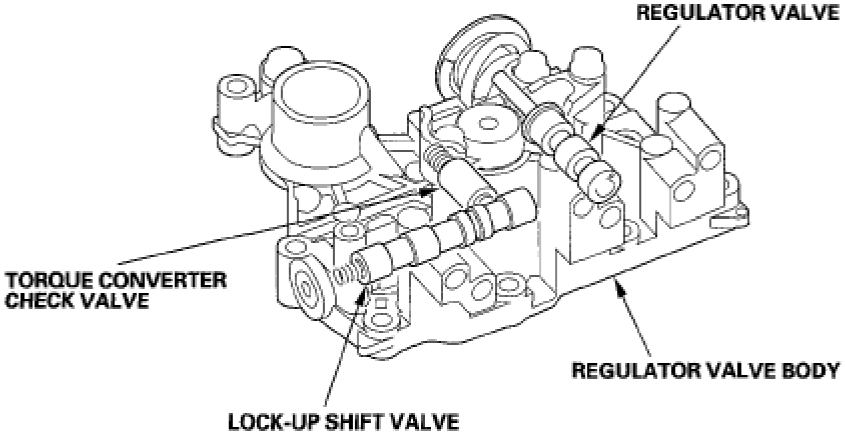
REGULATOR VALVE
TORQUE CONVERTER CHECK VALVE
REGULATOR VALVE BODY
LOCK-UP SHIFT VALVE

**Fig. 35: Identifying Regulator Valve Body Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Regulator Valve**

The regulator valve maintains constant hydraulic pressure from the ATF pump to the hydraulic control system. While also furnishing fluid to the lubrication system and the torque converter. Fluid from the ATF pump flows through B and B'. Fluid entering from B flows through the valve orifice to the A cavity. This pressure of the A cavity pushes the regulator valve toward the spring, and this movement of the regulator valve uncovers the fluid port to the torque converter and the relief valve. The fluid flows out to the torque converter and the relief valve, and the regulator valve returns under spring force. According to the level of the hydraulic pressure through B, the position of the regulator valve changes, and the amount of fluid from B' through the torque converter changes. This operation is continued, maintaining the line pressure.

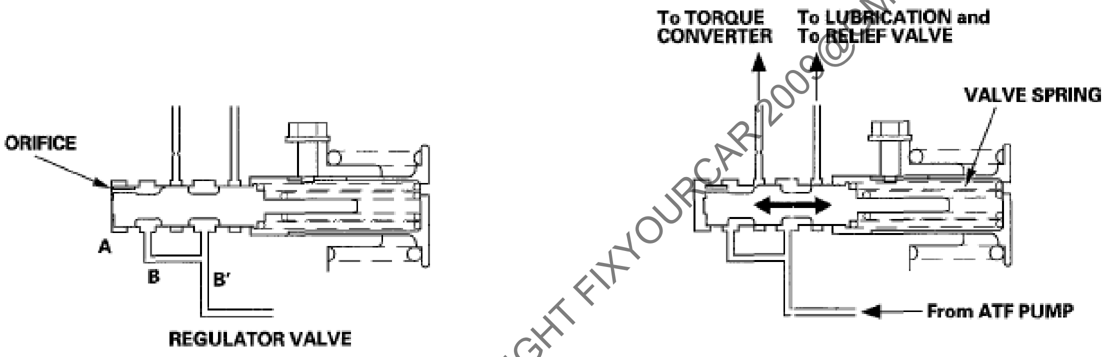

**Fig. 36: Regulator Valve Operation Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Increases in hydraulic pressure according to torque are regulated by the regulator valve using stator torque reaction. The stator shaft is splined to the stator in the torque converter, and its arm end contacts the regulator spring cap. When the vehicle is accelerating or climbing (torque converter range), stator torque reaction acts on the stator shaft, and the stator arm pushes the regulator spring cap in the direction of the arrow in proportion to the reaction. The stator reaction spring compresses, and the regulator valve moves to increase the line pressure which is regulated by the regulator valve. The line pressure reaches its maximum when the stator torque reaction reaches its maximum.

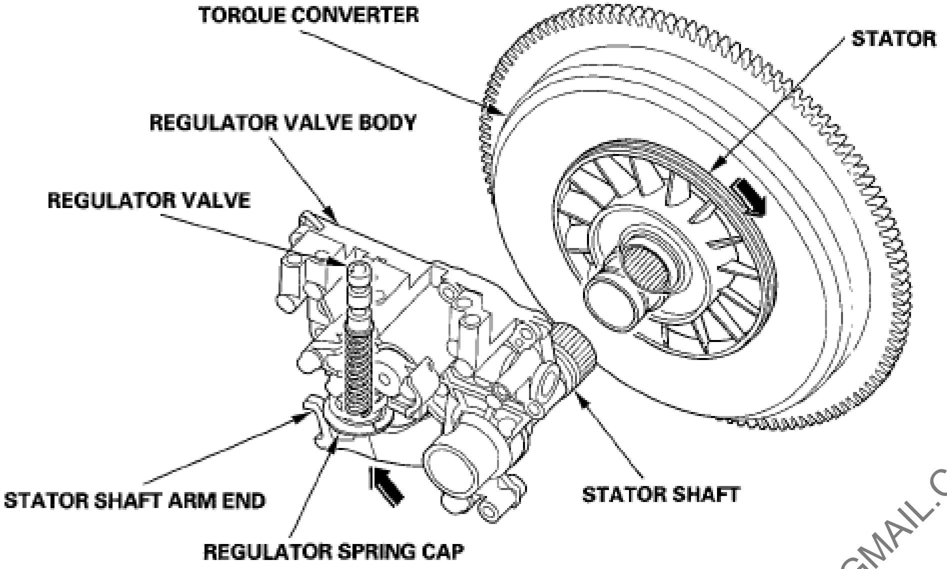
TORQUE CONVERTER
STATOR
REGULATOR VALVE BODY
REGULATOR VALVE
STATOR SHAFT ARM END
STATOR SHAFT
REGULATOR SPRING CAP

Fig. 37: Identifying Regulator Spring Cap
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Servo Body**

The servo body is on the main valve body. The servo body contains the servo valve, shift valve B, cut valve A, the accumulators for 2nd, 4th, and 5th, and shift solenoid valves A, B, C, and D.

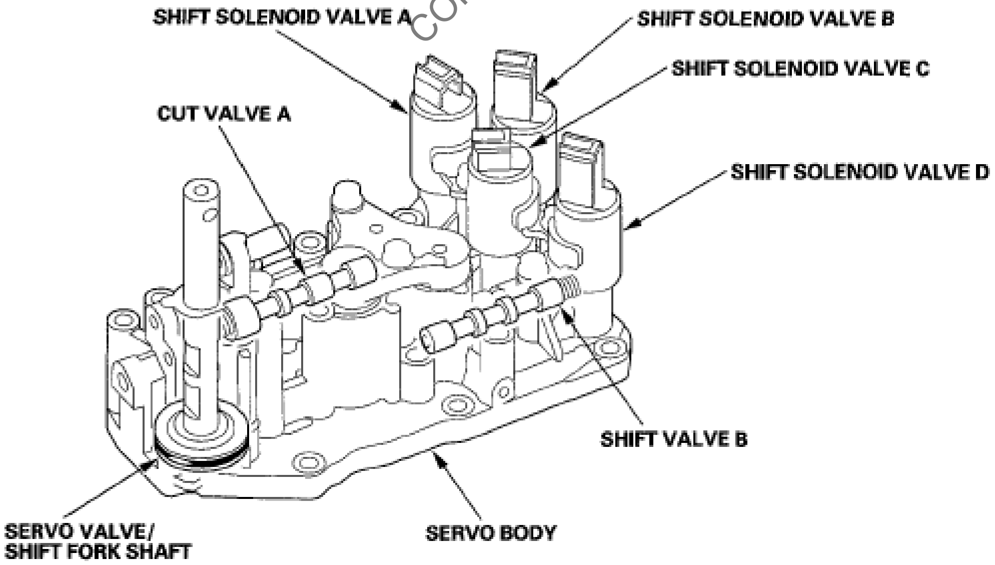
SHIFT SOLENOID VALVE A
SHIFT SOLENOID VALVE B
SHIFT SOLENOID VALVE C
CUT VALVE A
SHIFT SOLENOID VALVE D
SHIFT VALVE B
SERVO VALVE/
SHIFT FORK SHAFT
SERVO BODY

Fig. 38: Identifying Servo Body Components
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Accumulator**

The accumulators are located in the regulator valve body and the servo body. The regulator valve body contains the 1st and 3rd accumulators, and the servo body contains the 2nd, 4th, and 5th accumulators.

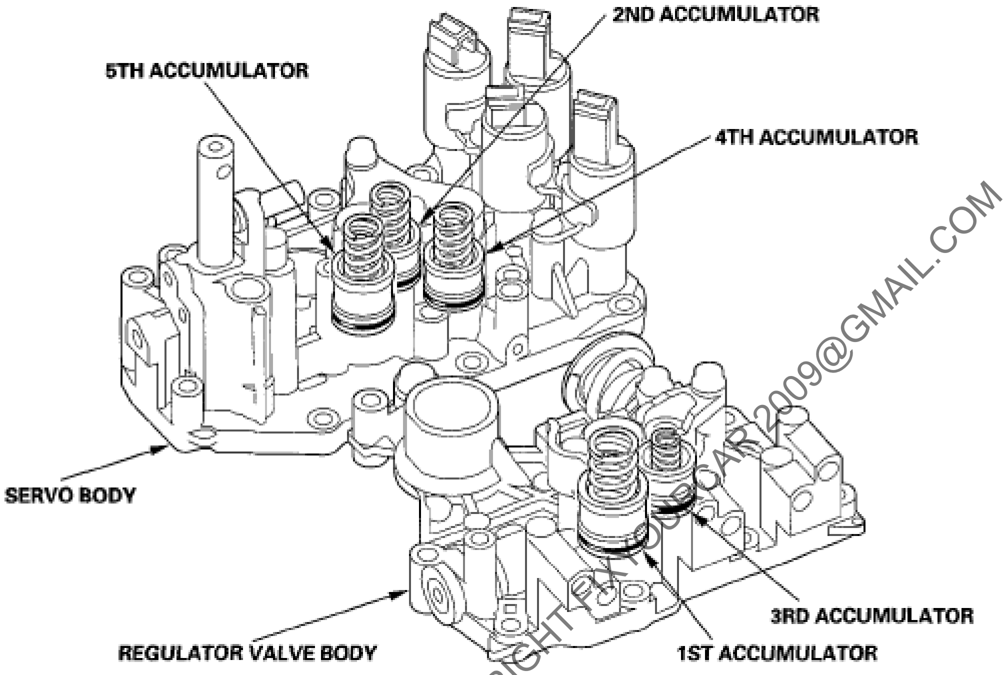

**Fig. 39: Identifying Accumulator Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Hydraulic Flow**

**Distribution of Hydraulic Pressure**

As the engine turns, the ATF pump starts to operate. Automatic transmission fluid (ATF) is drawn through the ATF strainer (filter) and discharged into the hydraulic circuit. Then, ATF flowing from the ATF pump becomes line pressure that is regulated by the regulator valve. Torque converter pressure from the regulator valve enters the torque converter through the lock-up shift valve, and it is discharged from the torque converter. The torque converter check valve prevents torque converter pressure from rising.

The PCM turns the shift solenoid valves ON and OFF. The shift solenoid valve controls line pressure from the ATF pump via the manual valve when the shift solenoid valve is OFF. When the shift solenoid valve is turned ON by the PCM, line pressure changes to shift solenoid valve pressure at the shift solenoid valve, then the shift solenoid valve pressure flows to the shift valve. Applying shift solenoid pressure to the shift valve moves the position of the shift valve, and switches the port of the hydraulic circuit. The PCM also controls A/T clutch pressure control solenoid valves A, B, and C. The A/T clutch pressure control solenoid valves regulate hydraulic pressure, and apply the pressure to the clutches to engage smoothly. The clutches receive optimum clutch pressure which is regulated by the A/T clutch pressure control solenoid valves for comfortable driving and shifting under all conditions.

**Hydraulic Pressure at the Port for use in the hydraulic circuit**

## HYDRAULIC PRESSURE REFERENCE

| Port No. | Hydraulic Pressure | Port No. | Hydraulic Pressure |
|---|---|---|---|
| 1 | Line | 5T | A/T clutch pressure control solenoid valve C |
| 3 | Line | SA | Shift solenoid valve A |
| 3' | Line | SB | Shift solenoid valve B |
| 4 | Line | SC | Shift solenoid valve C |
| 4' | Line | SD | Shift solenoid valve D |
| 4'' | Line | 10 | 1st clutch |
| 7 | Line | 20 | 2nd clutch |
| 1A | Line | 30 | 3rd clutch |
| 1B | Line | 40 | 4th clutch |
| 1C | Line or A/T clutch pressure control solenoid valve A | 50 | 5th clutch |
|  |  |  |  |

| | | | |
|---|---|---|---|
| 3A | Line or A/T clutch pressure control solenoid valve A | 55 | A/T clutch pressure control solenoid valve A |
| 3B | Line or A/T clutch pressure control solenoid valve A | 55' | A/T clutch pressure control solenoid valve A |
| 3C | Line or A/T clutch pressure control solenoid valve A | 56 | A/T clutch pressure control solenoid valve B |
| 5A | Line or A/T clutch pressure control solenoid valve A | 57 | A/T clutch pressure control solenoid valve C |
| 5B | Line, A/T clutch pressure control solenoid valve A, or C | 90 | Torque converter |
| 5C | A/T clutch pressure control solenoid valve C | 91 | Torque converter |
| 5D | Line or A/T clutch pressure control solenoid valve A | 92 | Torque converter |
| 5E | Line or A/T clutch pressure control solenoid valve B | 93 | ATF cooler |
| 5F | A/T clutch pressure control solenoid valve B | 94 | Torque converter |
| 5G | Line, A/T clutch pressure control solenoid valve A, or B | 95 | Lubrication |
| 5H | A/T clutch pressure control | 96 | Torque converter |

| | | | |
|---|---|---|---|
| | solenoid valve B | | |
| 5J | A/T clutch pressure control solenoid valve C | 97 | Torque converter |
| 5K | A/T clutch pressure control solenoid valve C | 99 | Suction |
| 5L | A/T clutch pressure control solenoid valve C | X | Drain |
| 5M | A/T clutch pressure control solenoid valve B | HX | High position drain |
| 5R | A/T clutch pressure control solenoid valve C | AX | Air drain |

**N Position**

The PCM controls the shift solenoid valves. The conditions of the shift solenoid valves and positions of the shift valve are as follows:

- Shift solenoid valve A is turned OFF, shift valve A remains on the right side, and cut valve A remains on the left side.
- Shift solenoid valve B is turned OFF, and shift valve B remains on the right side.
- Shift solenoid valve C is turned OFF, and shift valve C remains on the right side.

Line pressure (1) passes through the manual valve and stops at cut valve B. Line pressure (1) also flows to shift solenoid valves, and A/T clutch pressure control solenoid valve A. Under this condition, hydraulic pressure is not applied to the clutches.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

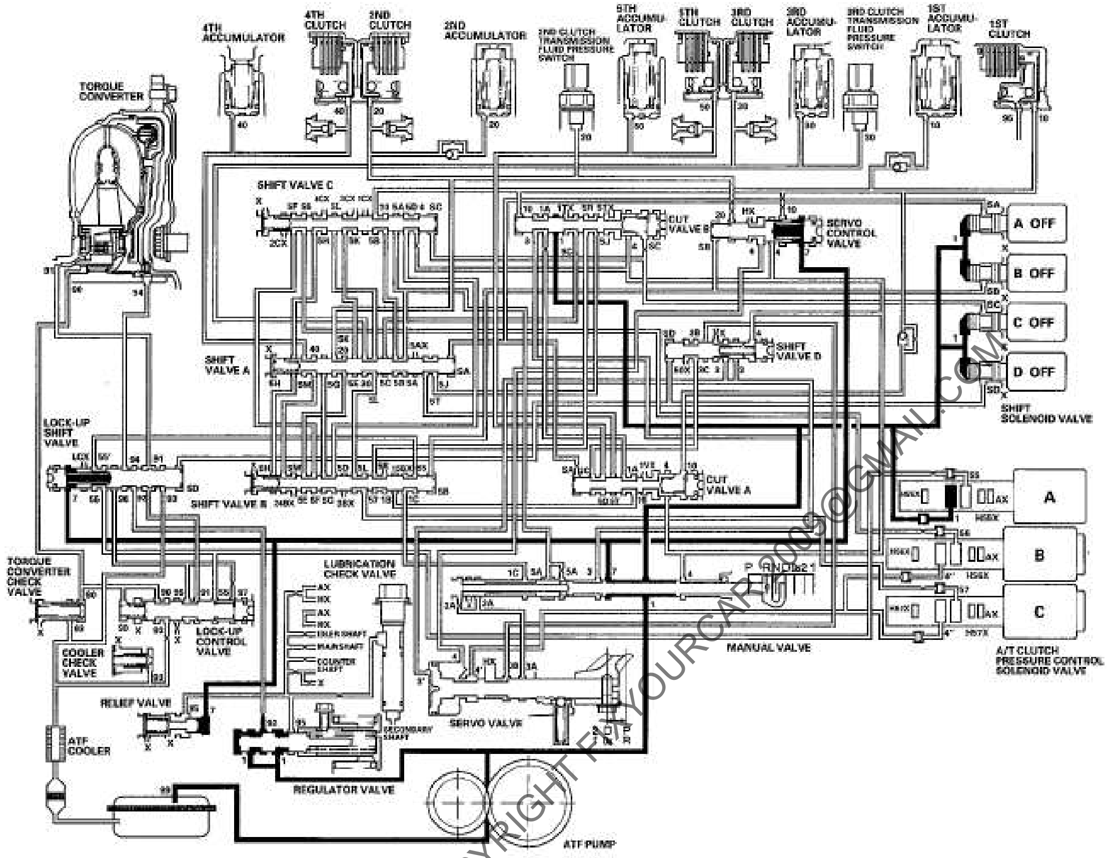
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B OFF
C OFF
D OFF
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
MANUAL VALVE
P R N D 2 1
RELIEF VALVE
SERVO VALVE
SECONDARY SHAFT
ATF COOLER
REGULATOR VALVE
ATF PUMP
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT

**Fig. 40: Hydraulic Fuel Pressure Flow Diagram (N Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: 1st gear shifting from the N position**

The shift solenoid valves and the shift valves remain the same position when shifting from D to N. The PCM actuates A/T clutch pressure control solenoid valve A to regulate the line pressure. Line pressure (1) becomes A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure flows to the lock-up shift valve, shift valve B, the manual valve, and shift valve A. Also solenoid valve A pressure becomes 1st clutch pressure (10) at shift valve C, and 1st clutch pressure (10) flows to the 1st clutch. The 1st clutch is engaged by A/T clutch pressure control solenoid valve A pressure mode when shifting to D from N.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

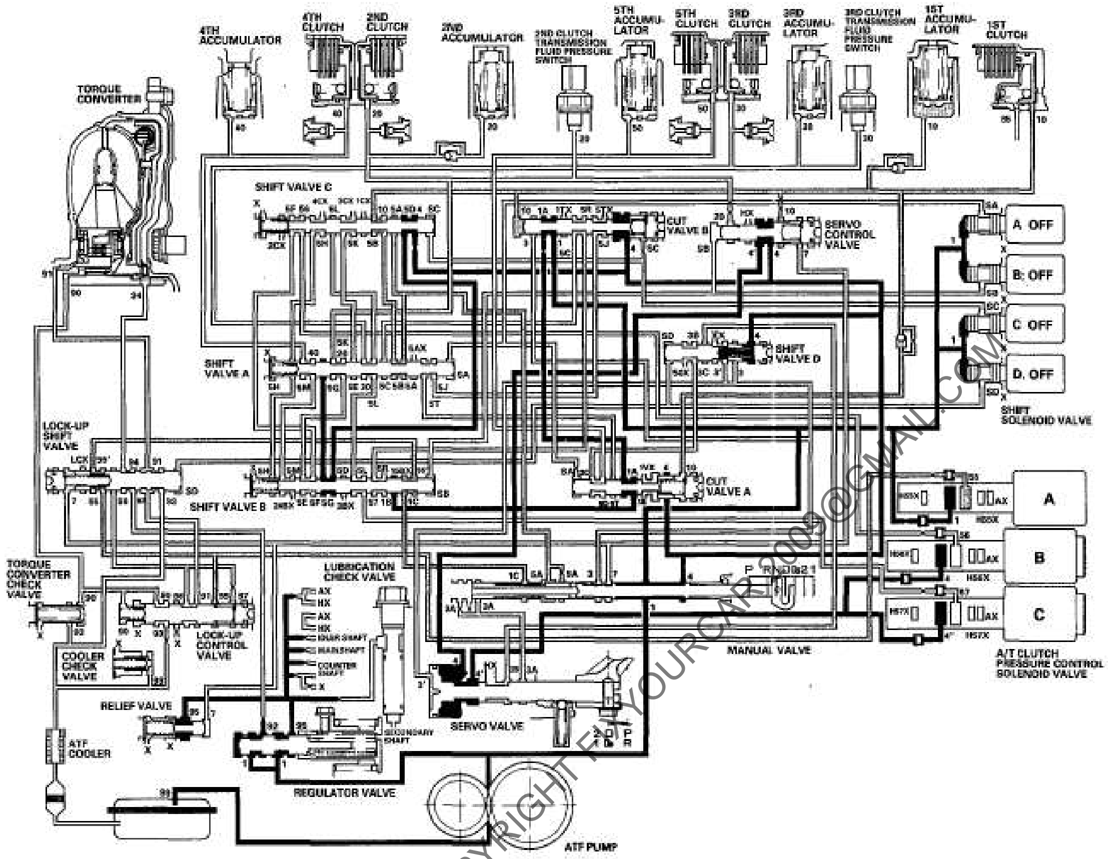
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B OFF
C OFF
D OFF
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT
MANUAL VALVE
P R N D D3 2 1
COOLER CHECK VALVE
LOCK-UP CONTROL VALVE
RELIEF VALVE
ATF COOLER
SERVO VALVE
REGULATOR VALVE
ATF PUMP

**Fig. 41: Hydraulic Fuel Pressure Flow Diagram (D Position - 1st Gear Shifting From N Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 1st gear**

The PCM turns shift solenoid valve B ON, and shift solenoid valves A and C remain OFF. Shift solenoid valve B pressure (SB) is applied to the right side of shift valve B. Shift valve B then moves to the left side, causing the line pressure port leading to the 1st clutch to be uncovered, and the A/T clutch pressure control solenoid valve A pressure port to be covered. Line pressure (1B) passed through shift valve B flows to the manual valve, shift valve A, and shift valve C, and becomes 1st clutch pressure (10). 1st clutch pressure is applied to the 1st clutch, and the 1st clutch is engaged by the line pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

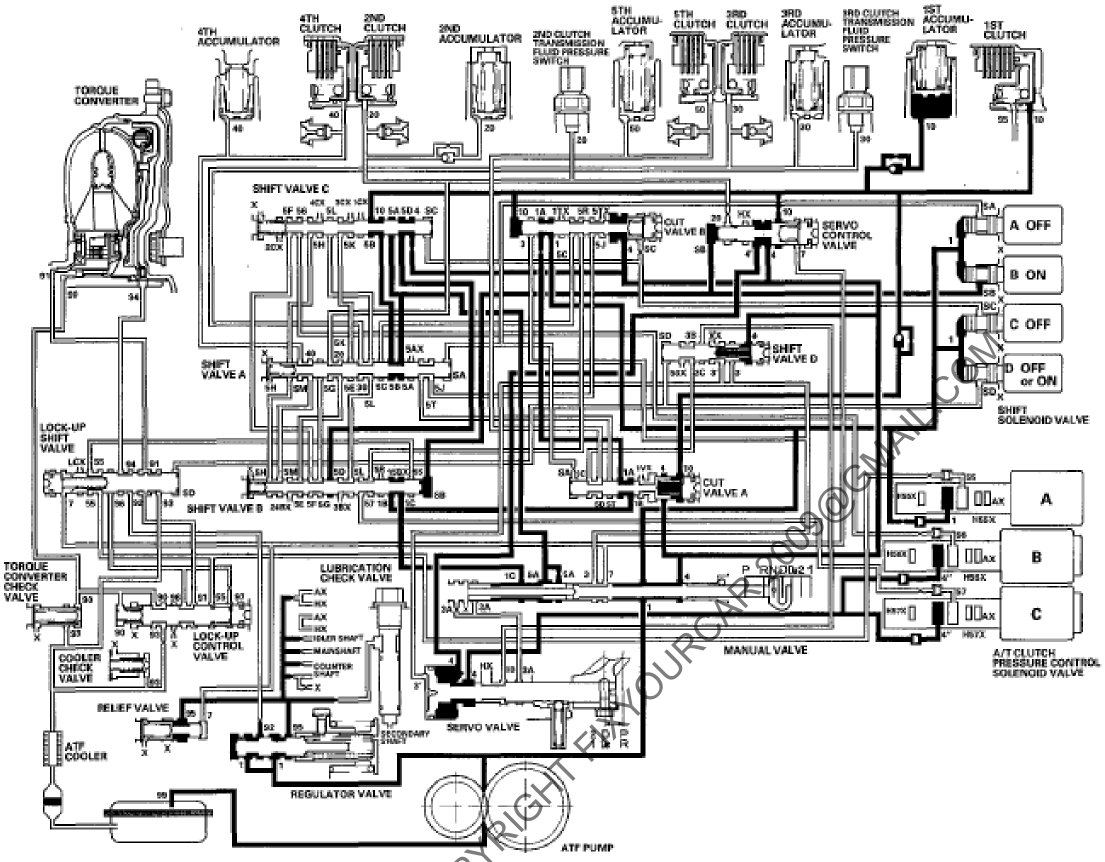
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B ON
C OFF
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
SECONDARY SHAFT
SERVO VALVE
MANUAL VALVE
P R N D D3 2 1
REGULATOR VALVE
ATF PUMP

**Fig. 42: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 1st Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 1st gear and 2nd gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON, shift solenoid valve B remains ON, and C remains OFF. Shift solenoid valve A pressure (SA) is applied to the right end of shift valve A and to the left side of cut valve A. Cut valve A is moved to the right side to release 1st clutch pressure in line pressure mode, and shift valve A is moved to the left side to switch line pressure (5A) port to A/T clutch pressure control solenoid valve C pressure (5C) port leading to the 1st clutch. Also shift valve A uncovers 2nd clutch pressure (20) port leading A/T clutch pressure control solenoid valve B pressure (56) to the 2nd clutch. The 1st clutch and the 2nd clutch are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

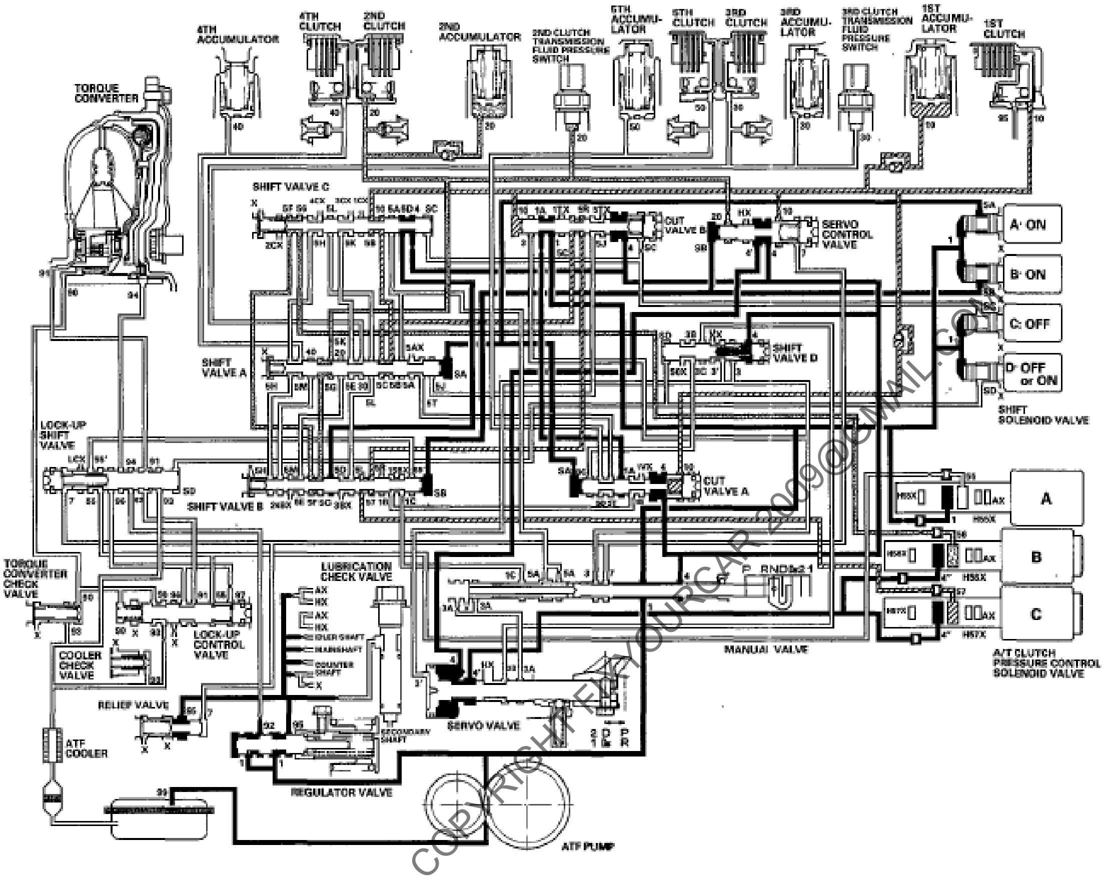
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A: ON
B: ON
C: OFF
D: OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
MANUAL VALVE
P R N D 2 1
SERVO VALVE
SECONDARY SHAFT
REGULATOR VALVE
ATF PUMP

**Fig. 43: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 1st Gear And 2nd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 2nd gear**

The PCM turns shift solenoid valve B OFF, shift solenoid valve A remains ON, and C remains OFF. Shift solenoid valve B is turned OFF, and shift solenoid valve B pressure (SB) in the right end of shift valve B and in the left end of the servo control valve is released. Cut valve B and servo control valve are kept in the right side by line pressure (4) even though releasing hydraulic pressure in the left end. Shift valve B is moved to the right side to switch A/T clutch pressure control solenoid valve B pressure (5F) port to line pressure (5D) port leading to the 2nd clutch. 2nd clutch pressure (20) is applied to the 2nd clutch, and the 2nd clutch is engaged by the line pressure mode.

**NOTE:** **When used, "left" or "right" indicates direction on the hydraulic circuit.**

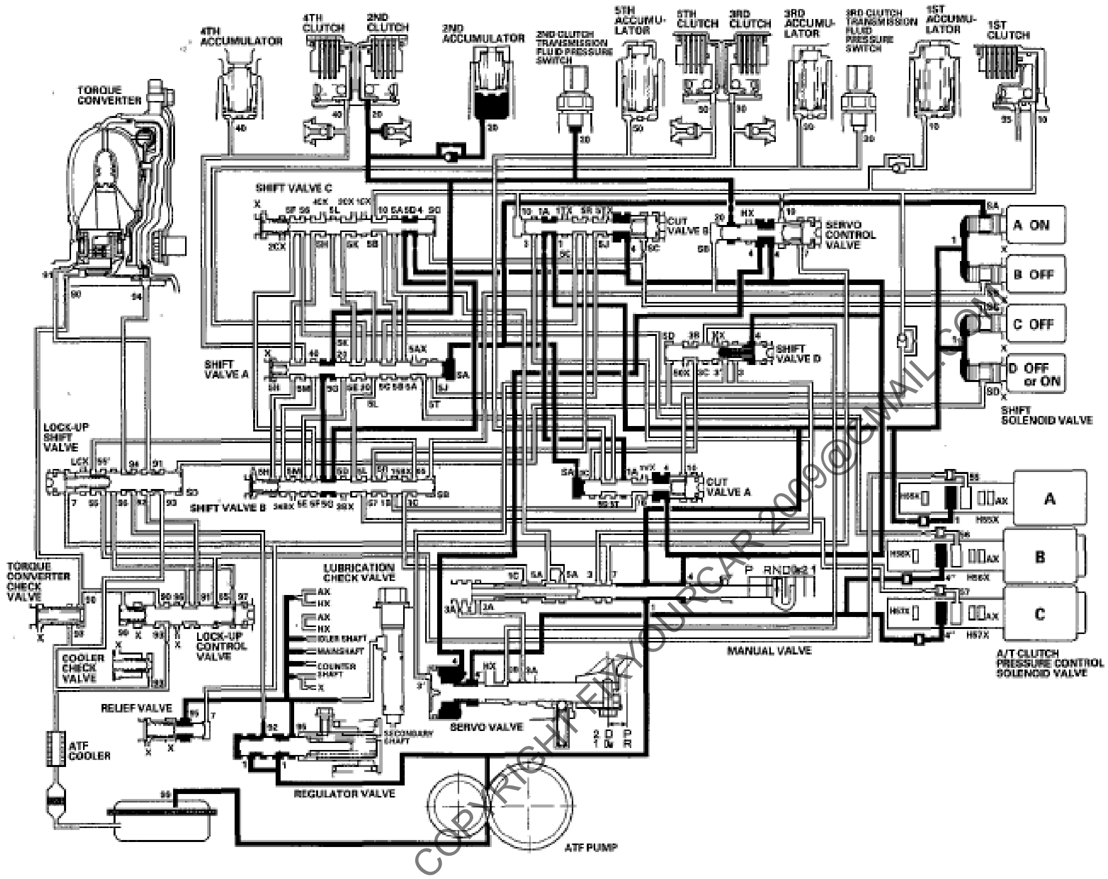
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A ON
B OFF
C OFF
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT
MANUAL VALVE
P R N D 2 1
COOLER CHECK VALVE
LOCK-UP CONTROL VALVE
RELIEF VALVE
SERVO VALVE
ATF COOLER
REGULATOR VALVE
ATF PUMP

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**Fig. 44: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 2nd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 2nd gear and 3rd gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A OFF, while shift solenoid valve B and C remain OFF. Shift solenoid valve A is turned OFF, and shift solenoid valve A pressure (SA) in the right end of shift valve A and in the left end of cut valve A is released. Even though shift solenoid valve A pressure is released, cut valve A is kept on the right side by line pressure (4). Shift valve A is moved to the right side to switch to the line pressure (5G) port to the A/T clutch pressure control solenoid valve B pressure (5E) port leading to the 2nd clutch. Also shift valve A uncovers 3rd clutch pressure (30) port leading A/T clutch pressure control solenoid valve C pressure (5L) to the 3rd clutch. The 2nd and 3rd clutch are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

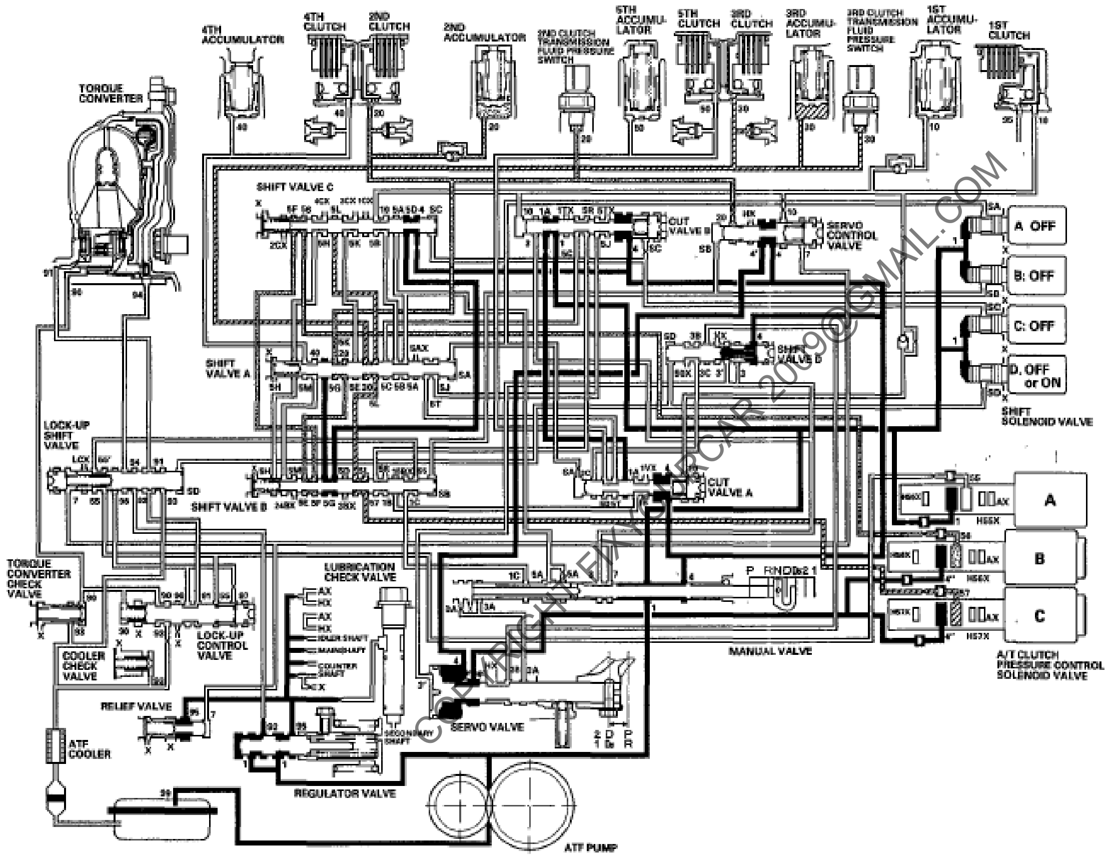
TORQUE CONVERTER
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMU-LATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMU-LATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMU-LATOR
1ST CLUTCH
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B: OFF
C: OFF
D. OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
COOLER CHECK VALVE
LOCK-UP CONTROL VALVE
P R N D D3 2 1
MANUAL VALVE
RELIEF VALVE
ATF COOLER
SECONDARY SHAFT
SERVO VALVE
2 D P
1 D3 R
REGULATOR VALVE
ATF PUMP

**Fig. 45: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 2nd Gear And 3rd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 3rd gear**

The PCM turns shift solenoid valve CON, and shift solenoid valve A and B remain OFF. Shift solenoid valve C pressure (SC) is applied to the right side of shift valve C and cut valve B. Shift valve C is then moved to the left side to releasing the 2nd clutch pressure. The 3rd clutch keeps on engaging with the A/T clutch pressure control solenoid valve C pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

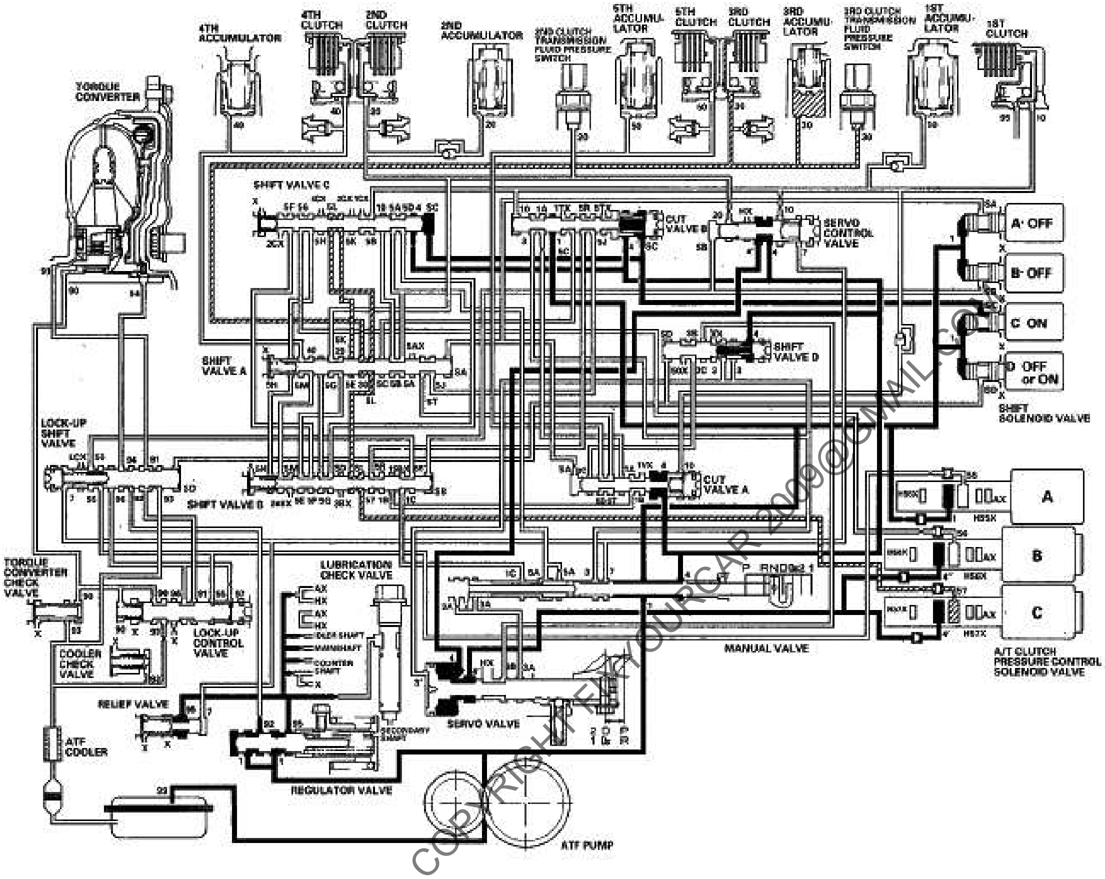
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A: OFF
B: OFF
C: ON
D: OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTERSHAFT
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
MANUAL VALVE
P R N D D3 2 1
RELIEF VALVE
SERVO VALVE
SECONDARY SHAFT
ATF COOLER
REGULATOR VALVE
ATF PUMP

**Fig. 46: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 3rd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 3rd gear and 4th gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON. Shift solenoid valve B remains OFF, and C remains ON. Shift solenoid valve A pressure (SA) is applied to the right end of shift valve A and the left end of cut valve A. Shift valve A is moved to the left side, switching the line pressure (5L) port to the A/T clutch pressure control solenoid valve C pressure (5K) port leading to the 3rd clutch. Also shift valve A uncovers the 4th clutch pressure (40) port leading A/T clutch pressure control solenoid valve B pressure (5H) to the 4th clutch. The 3rd and 4th clutches are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE:** **When used, "left" or "right" indicates direction on the hydraulic circuit.**

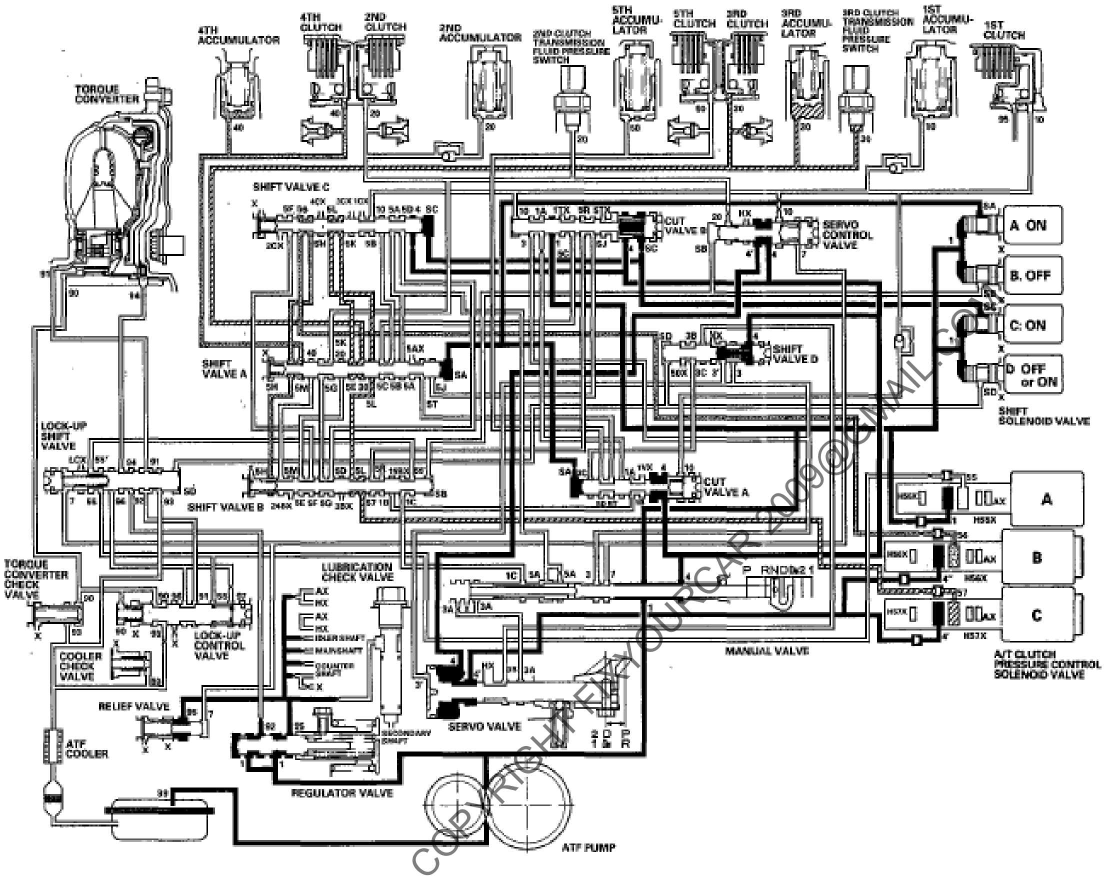
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A ON
B OFF
C ON
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
MANUAL VALVE
SERVO VALVE
REGULATOR VALVE
ATF PUMP
P R N D D3 2 1
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT

**Fig. 47: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 3rd Gear And 4th Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 4th gear**

The PCM turns shift solenoid valve B ON, and shift solenoid valve A and B remain ON. Shift solenoid valve B pressure (SB) is applied to the right side of shift valve B and the left side of the servo control valve. Shift valve B then moves to the left side releasing the 3rd clutch pressure. The 4th clutch is engaged by the A/T clutch pressure control solenoid valve B pressure mode.

**NOTE:** **When used, "left" or "right" indicates direction on the hydraulic circuit.**

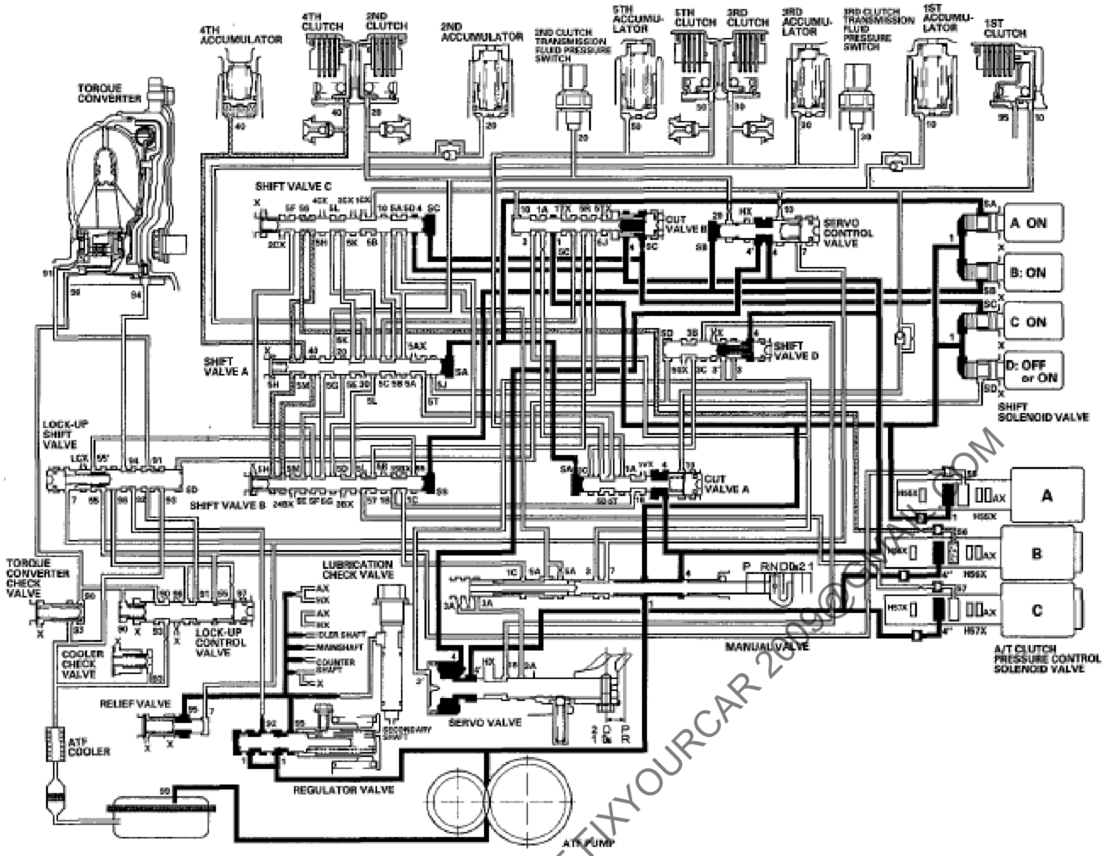
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A ON
B: ON
C ON
D: OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE D
SHIFT VALVE A
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
SERVO VALVE
MANUAL VALVE
P R N D D3 2 1
REGULATOR VALVE
ATF PUMP
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT

Fig. 48: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 4th Gear)
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 4th gear and 5th gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A OFF while shift solenoid valve B and C remain ON. As a result, the pressure in the right end of shift valve A is released. Even though shift solenoid valve A pressure (SA) is released, cut valve A is kept on the right side by the line pressure (4). Shift valve A is moved to the right side to uncover A/T clutch pressure control solenoid valve C pressure (5T) (5J) port leading to the 4th clutch. The 4th and 5th clutches are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE:** **When used, "left" or "right" indicates direction on the hydraulic circuit.**

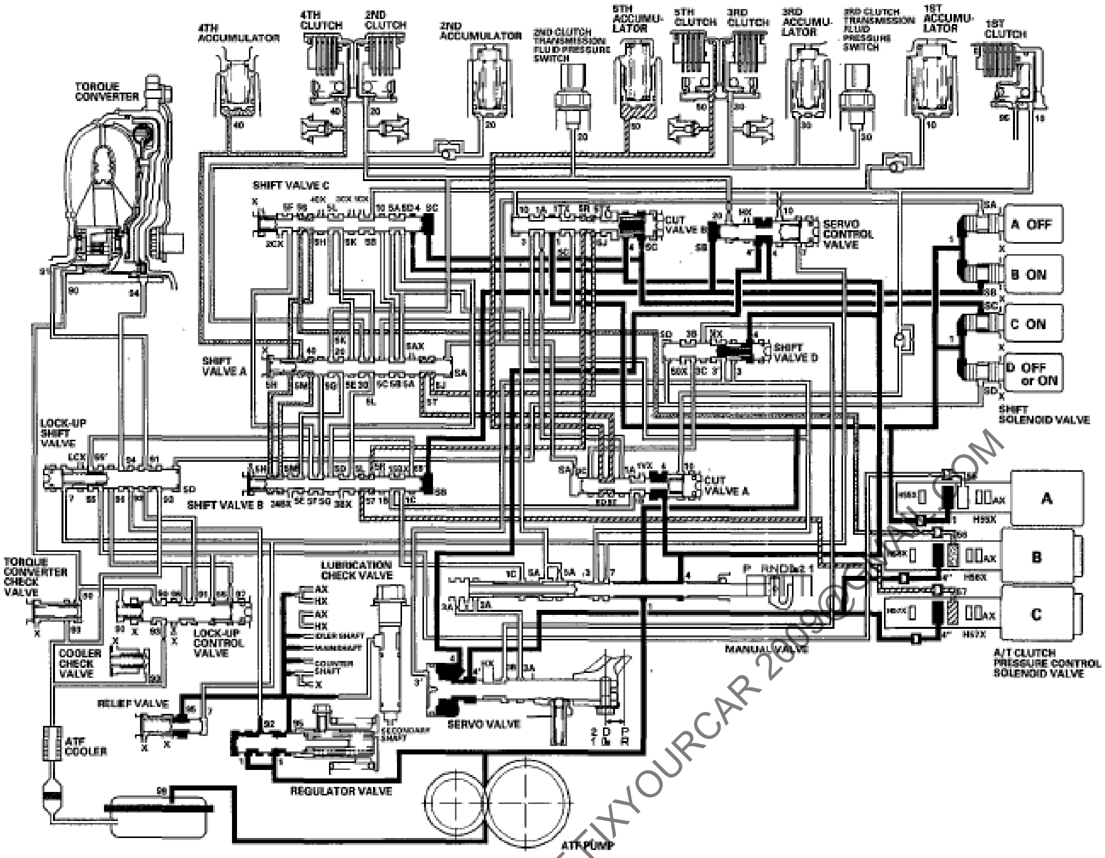
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B ON
C ON
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
MANUAL VALVE
P R N D D3 2 1
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT
SERVO VALVE
RELIEF VALVE
ATF COOLER
REGULATOR VALVE
ATF PUMP

**Fig. 49: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 4th Gear And 5th Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 5th gear**

The PCM turns shift solenoid valve C OFF, shift solenoid valve A remains OFF, and B remains ON. Shift solenoid valve C pressure (SC) is then released to the right side of shift valve C. This causes shift valve C to move to the right side, releasing the 4th clutch pressure. The 5th clutch is engaged by the A/T clutch pressure control solenoid valve C pressure mode.

**NOTE:** **When used, "left" or "right" indicates direction on the hydraulic circuit.**

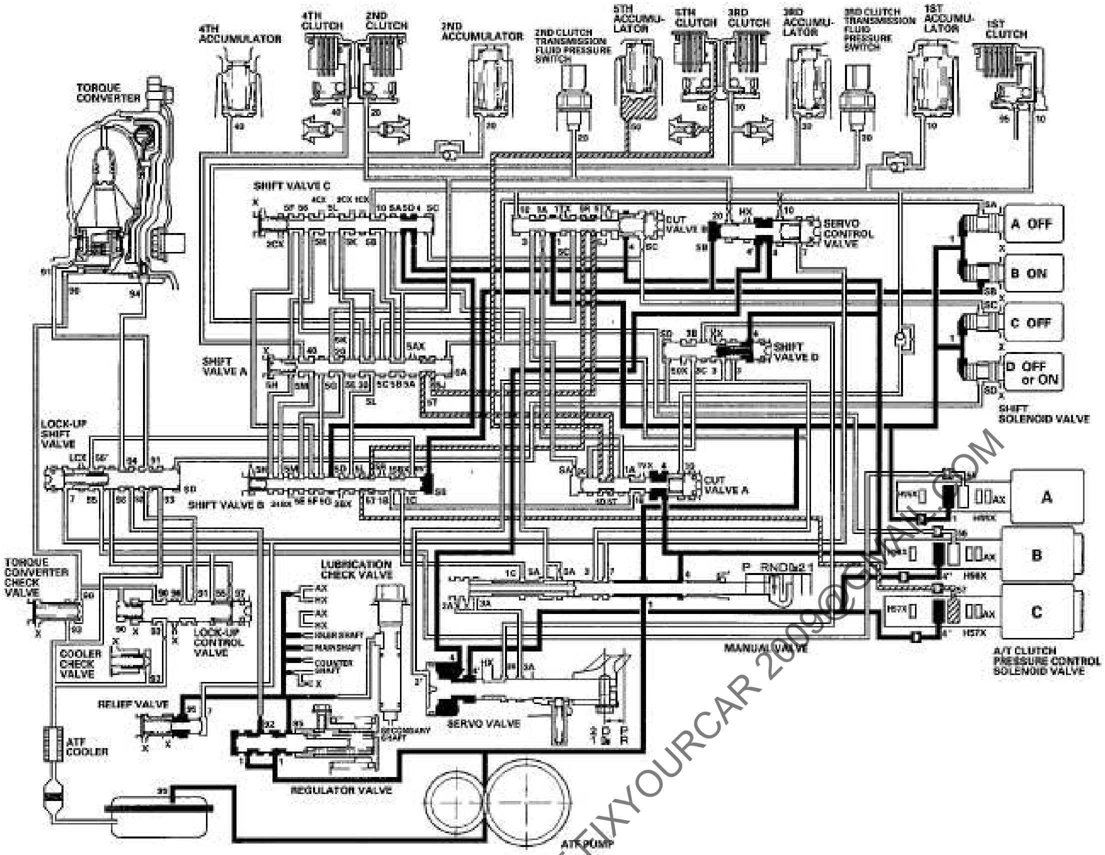
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B ON
C OFF
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE D
SHIFT VALVE A
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
P R N D 2 1
MANUAL VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
SERVO VALVE
SECONDARY SHAFT
REGULATOR VALVE
ATF PUMP
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT

**Fig. 50: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 5th Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2 Position**

The PCM controls the shift solenoid valves and the A/T clutch pressure control solenoid valves. The conditions of the shift solenoid valves and the position of the shift valves are as follows:

- Shift solenoid valve A is turned ON, causing shift valve A to move to the left side.
- Shift solenoid valve B is turned OFF, keeping shift valve B on the right side.
- Shift solenoid valve C is turned OFF, keeping shift valve C on the left side.

Line pressure travels up and through shift valve C (5D), through shift valve B (5G), and then up to shift valve A (20) to become 2nd clutch pressure. The 2nd clutch is engages by the 2nd clutch pressure.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

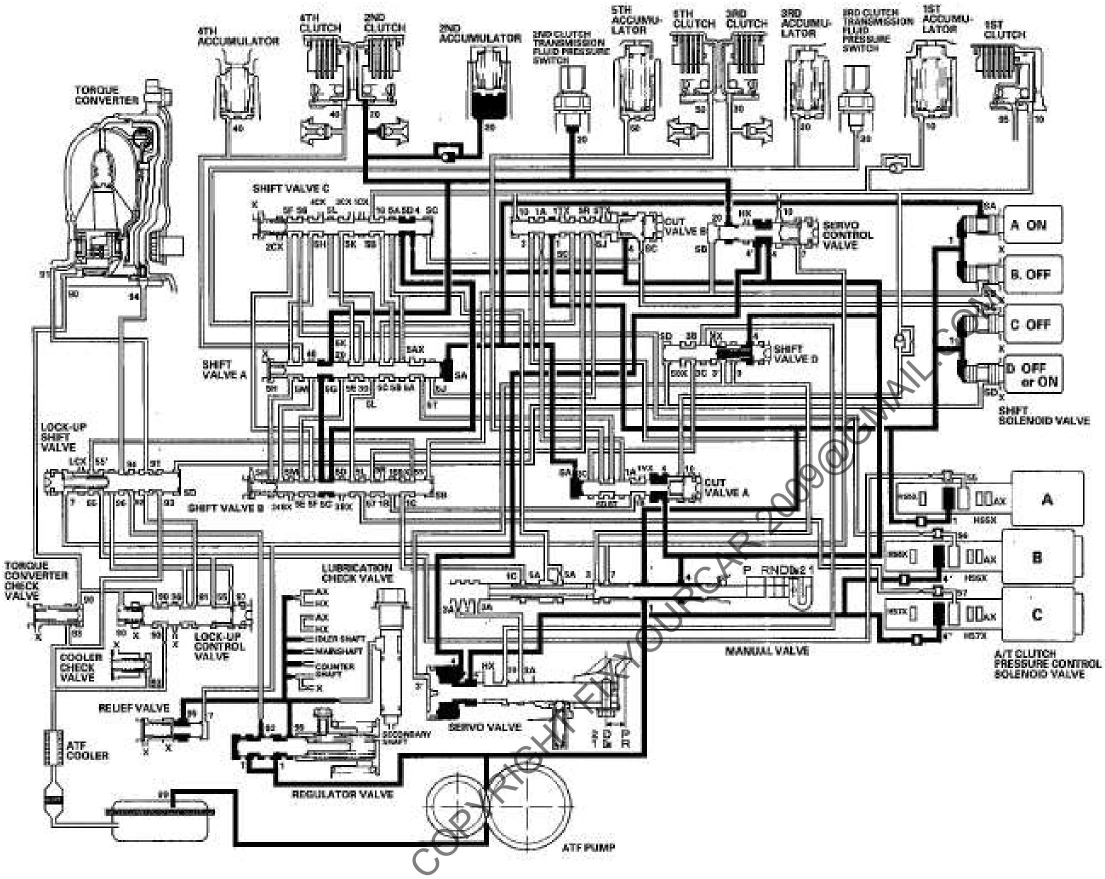
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A ON
B OFF
C OFF
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
P RND D3 2 1
MANUAL VALVE
RELIEF VALVE
SERVO VALVE
ATF COOLER
REGULATOR VALVE
ATF PUMP

**Fig. 51: Hydraulic Fuel Pressure Flow Diagram (2 Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### 1 Position

The PCM controls the shift solenoid valves and the A/T clutch pressure control solenoid valves. The conditions of the shift solenoid valves and the position of the shift valves are as follows:

- Shift solenoid valve A is turned OFF, keeping shift valve A on the right side.
- Shift solenoid valve B is turned ON, causing shift valve B move to the left side.
- Shift solenoid valve C is turned OFF, keeping shift valve C on the right side.

Line pressure (1) from the manual valve flows to cut valve B, cut valve A, shift valve B, and becomes line pressure (5A) at the manual valve. Line pressure (5A) passes through shift valve A, flows to shift valve C, and becomes 1st clutch pressure (10). 1st clutch pressure (10) is applied to the 1st clutch, and the 1st clutch is engaged.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

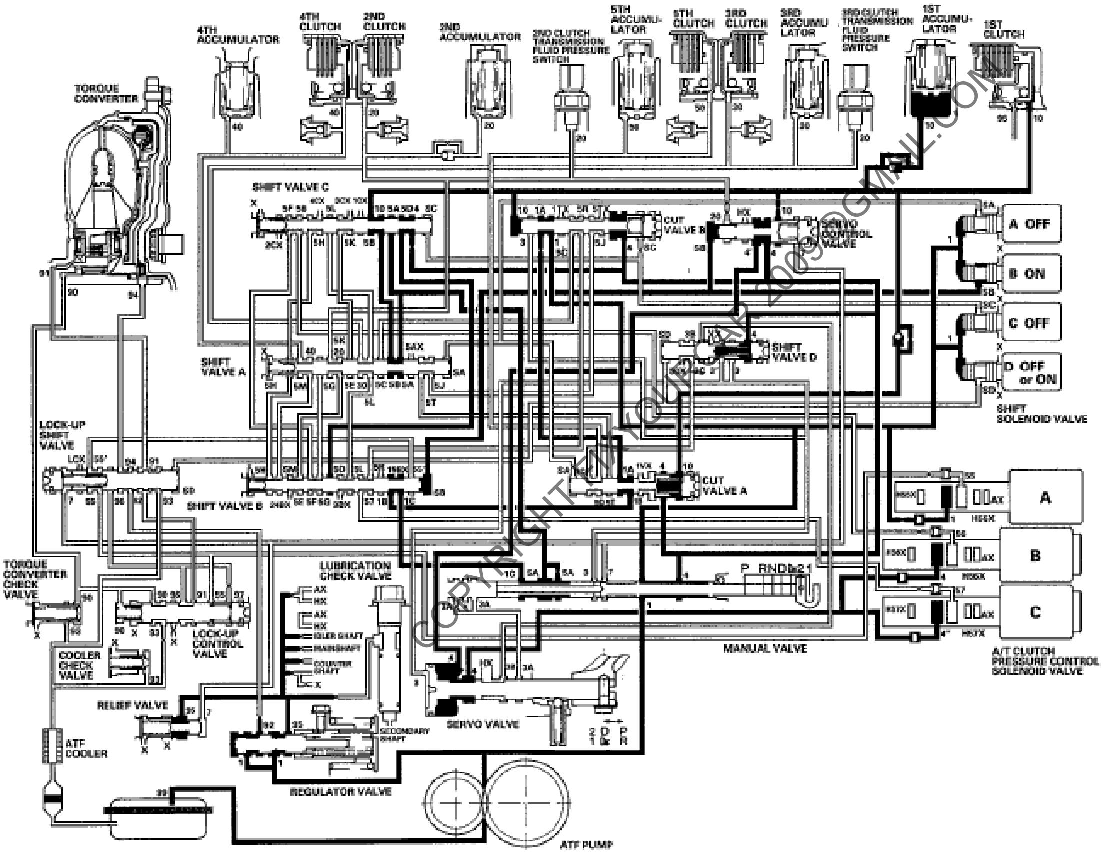
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B ON
C OFF
D OFF or ON
SHIFT SOLENOID VALVE
SHIFT VALVE D
SHIFT VALVE A
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTERSHAFT
P RND D 2 1
MANUAL VALVE
COOLER CHECK VALVE
LOCK-UP CONTROL VALVE
RELIEF VALVE
ATF COOLER
SERVO VALVE
SECONDARY SHAFT
REGULATOR VALVE
ATF PUMP

**Fig. 52: Hydraulic Fuel Pressure Flow Diagram (1 Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**R Position: Shifting to the R position from the P or N position**

The manual valve is moved into the R position. This causes line pressure (1) to become line pressure (1), (3), and (7) at the manual valve. The PCM turns shift solenoid valves C and D ON, and shift solenoid valves A and B remain OFF. Shift solenoid valve D pressure (SD) is applied to the left end of shift valve D, causing shift valve D to move to the right side, uncovering the line pressure (3) port leading to the servo valve. Line pressure (3') from shift valve D flows to the servo valve, and pushes the servo valve to the reverse position. The PCM controls A/T clutch pressure control solenoid valve A to regulate A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure (55) flows to the lock-up shift valve, shift valve B, the manual valve, the servo valve, shift valve D, and cut valve A. A/T clutch pressure control solenoid valve A pressure (3C) becomes 5th clutch pressure (50) at cut valve A. 5th clutch pressure (50) is applied to the 5th clutch, and the 5th clutch is engaged by the A/T clutch pressure control solenoid valve A pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

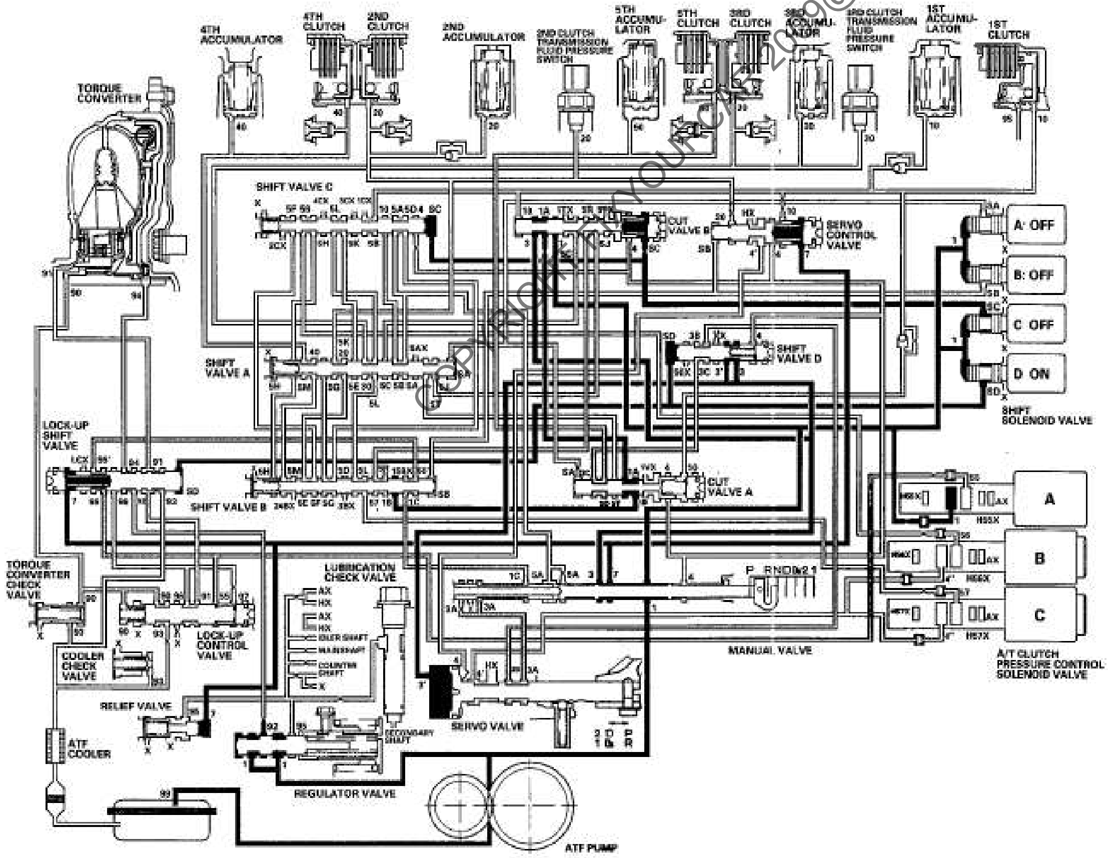
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMU-LATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMU-LATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMU-LATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A: OFF
B: OFF
C: OFF
D: ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
SECONDARY SHAFT
MANUAL VALVE
P R N D D3 2 1
RELIEF VALVE
SERVO VALVE
ATF COOLER
REGULATOR VALVE
ATF PUMP

Fig. 53: Hydraulic Fuel Pressure Flow Diagram (R Position - Shifting To R Position From P Or N Position)
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**R Position: Driving in reverse gear**

When starting off in reverse gear, the PCM turns shift solenoid valves B and C ON. Shift solenoid valve A remains OFF, and D remains ON. Shift solenoid valve B is turned ON, and shift solenoid valve B pressure (SB) is applied to the right end of shift valve B. Shift valve B is moved to the right side to switch A/T clutch pressure control solenoid valve A pressure (55') port to line pressure (1B) port leading to the 5th clutch. The 5th clutch is engaged with the line pressure mode.

### Reverse Inhibitor Control

When R is selected while the vehicle is moving forward at speeds over 6 mph (10 km/h), the PCM turns shift solenoid valves A and C ON, and shift solenoid valves B and D OFF. Shift solenoid valve D is kept OFF, and shift valve D is kept in the left side to cover line pressure (3) port leading to the servo valve. The servo valve is kept in the forward position. Shift solenoid valve A is turned ON, shift valve A is moved to the right side and covers the port to stop line pressure (1 A) leading to the 5th clutch. The servo valve is not applied line pressure, the 5th clutch is not applied 5th clutch pressure, as a result, power is not transmitted to the reverse direction.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

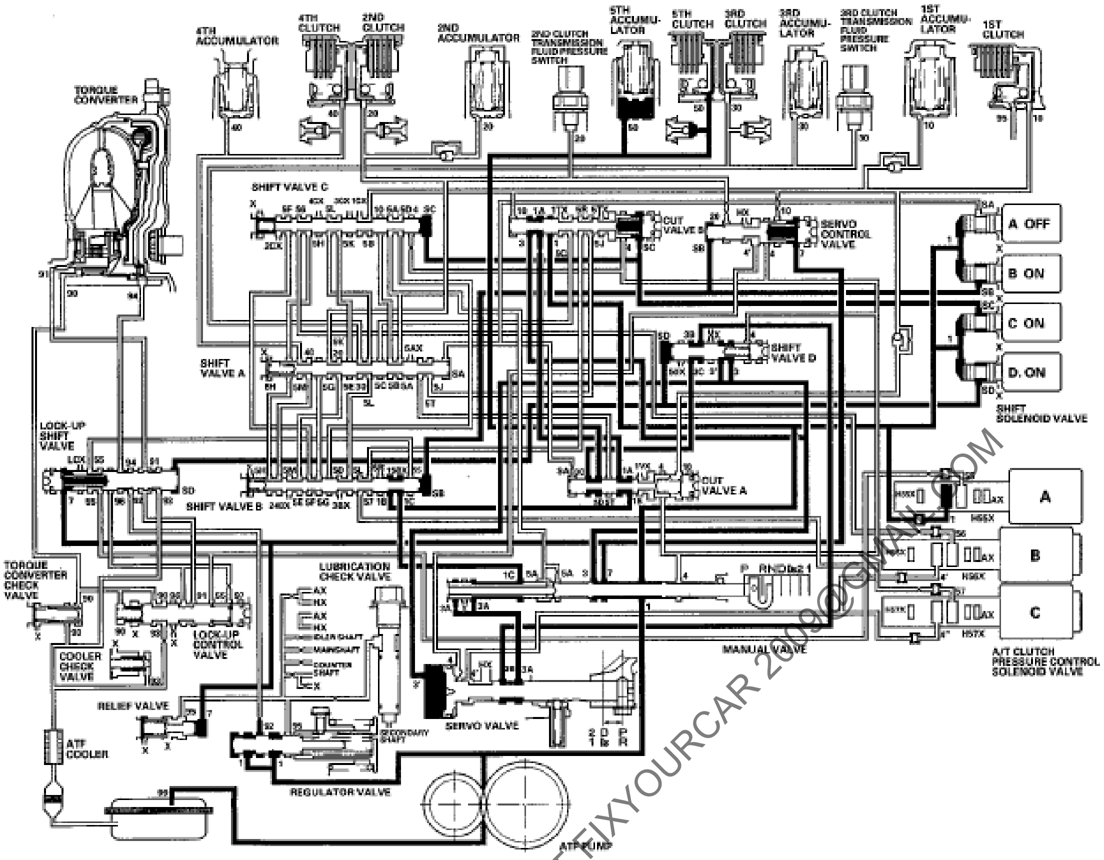
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B ON
C ON
D ON
SHIFT SOLENOID VALVE
SHIFT VALVE A
SHIFT VALVE D
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
RELIEF VALVE
ATF COOLER
MANUAL VALVE
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
SERVO VALVE
SECONDARY SHAFT
REGULATOR VALVE
ATF PUMP
P R N D D3 2 1

**Fig. 54: Hydraulic Fuel Pressure Flow Diagram (R Position - Driving In Reverse Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**P Position**

The manual valve is moved into the P position, line pressure (1) becomes line pressure (1), (3), and (7) at the manual valve. The PCM turns shift solenoid valve D ON, and shift solenoid valves A, B, and C OFF. Shift solenoid valve D pressure (SD) is applied to the left end of shift valve D, and shift valve D is moved to the right side to uncover line pressure (3) port leading to the servo valve. Line pressure (3') from shift valve D flows to the servo valve, and pushes the servo valve to the reverse position. Line pressure (1) is intercepted at cut valve B, line pressure (1B) is intercepted at shift valve B, and hydraulic pressure is not applied to the clutches.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

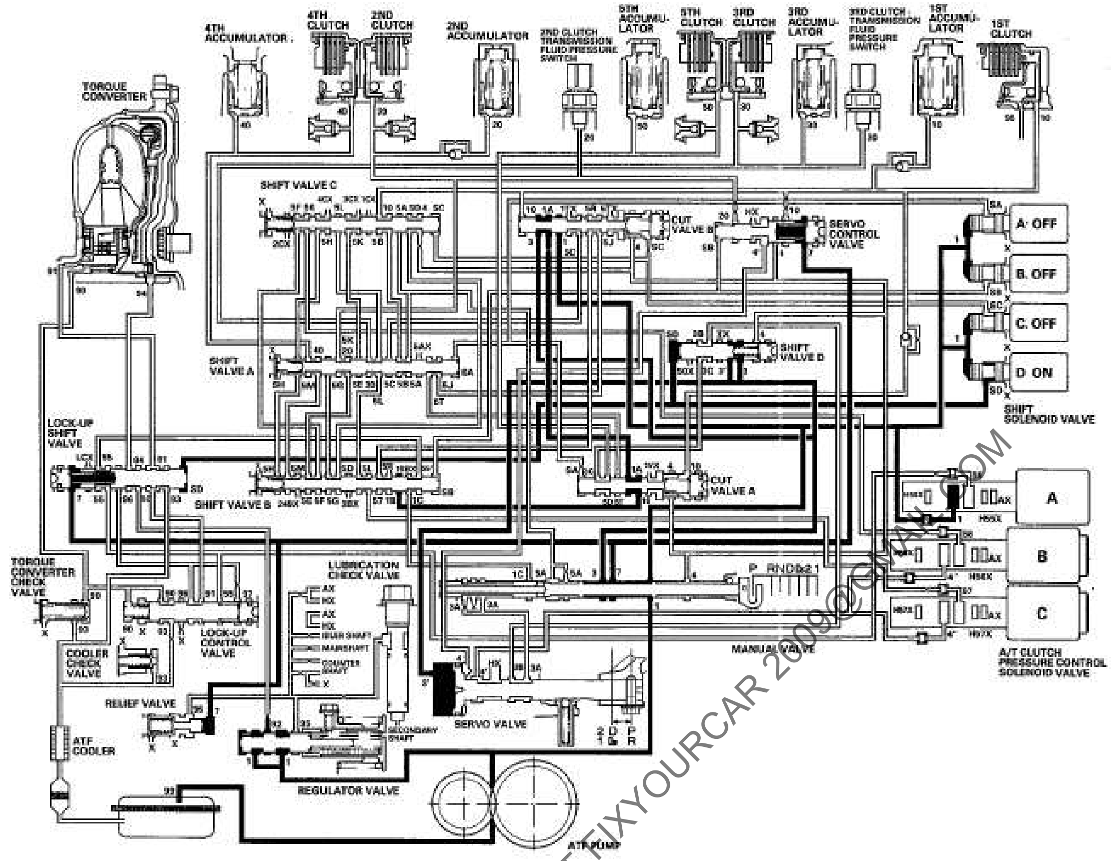
4TH ACCUMULATOR
4TH CLUTCH
2ND CLUTCH
2ND ACCUMULATOR
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
5TH ACCUMULATOR
5TH CLUTCH
3RD CLUTCH
3RD ACCUMULATOR
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
1ST ACCUMULATOR
1ST CLUTCH
TORQUE CONVERTER
SHIFT VALVE C
CUT VALVE B
SERVO CONTROL VALVE
A OFF
B OFF
C OFF
D ON
SHIFT SOLENOID VALVE
SHIFT VALVE D
SHIFT VALVE A
LOCK-UP SHIFT VALVE
SHIFT VALVE B
CUT VALVE A
A
B
C
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE
TORQUE CONVERTER CHECK VALVE
LUBRICATION CHECK VALVE
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
P R N D D3 2 1
MANUAL VALVE
RELIEF VALVE
ATF COOLER
SERVO VALVE
REGULATOR VALVE
ATF PUMP
2 D P
1 R

**Fig. 55: Hydraulic Fuel Pressure Flow Diagram (P Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Lock-up System

The lock-up mechanism of the torque converter clutch operates in D (2nd, 3rd, 4th, and 5th gears) and D3 (2nd and 3rd gears). The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with the hydraulic control, the PCM optimizes the timing and the amount of ATF the lock-up mechanism receives. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D pressure turns the lock-up shift valve lock-up on and off. A/T clutch pressure control solenoid valve A and the lock-up control valve control the volume of lock-up.

### Torque Converter Clutch Lock-up ON (Engaging Torque Converter Clutch)

Fluid in the chamber between the torque converter cover and the torque converter clutch piston is drained off, and fluid entering from the chamber between the pump and the stator exerts pressure through the torque converter clutch piston against the torque converter cover. The torque converter clutch piston engages with the torque converter cover; the torque converter clutch locks-up, and the mainshaft rotates at the same as the engine.

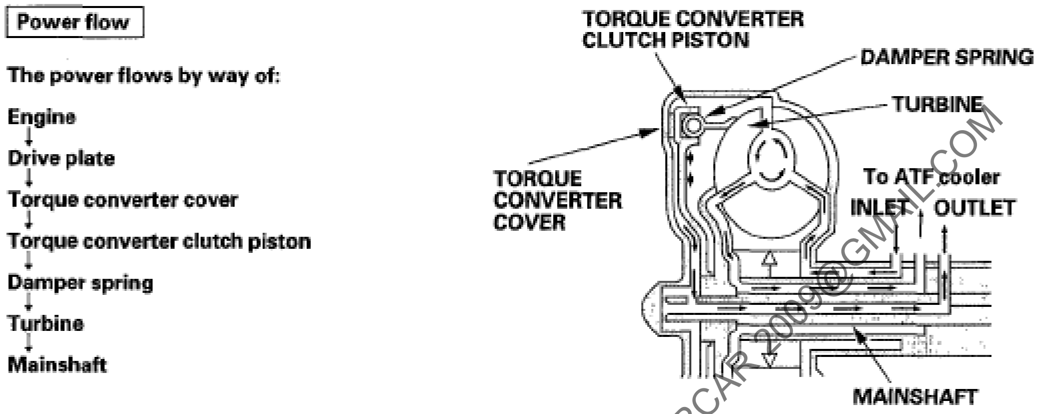
Power flow
The power flows by way of:
Engine
Drive plate
Torque converter cover
Torque converter clutch piston
Damper spring
Turbine
Mainshaft
TORQUE CONVERTER CLUTCH PISTON
DAMPER SPRING
TURBINE
TORQUE CONVERTER COVER
To ATF cooler
INLET
OUTLET
MAINSHAFT

**Fig. 56: Torque Converter Clutch Lock-Up On Diagram (Engaging Torque Converter Clutch)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Torque Converter Clutch Lock-up OFF (Disengaging Torque Converter Clutch)**

Fluid entered from the chamber between the torque converter cover and the torque converter clutch piston passes through the torque converter and goes out from the chambers between the turbine and the stator, and the pump and the stator. As a result, the torque converter clutch piston moves away from the torque converter cover, and the torque converter clutch lock-up is released.

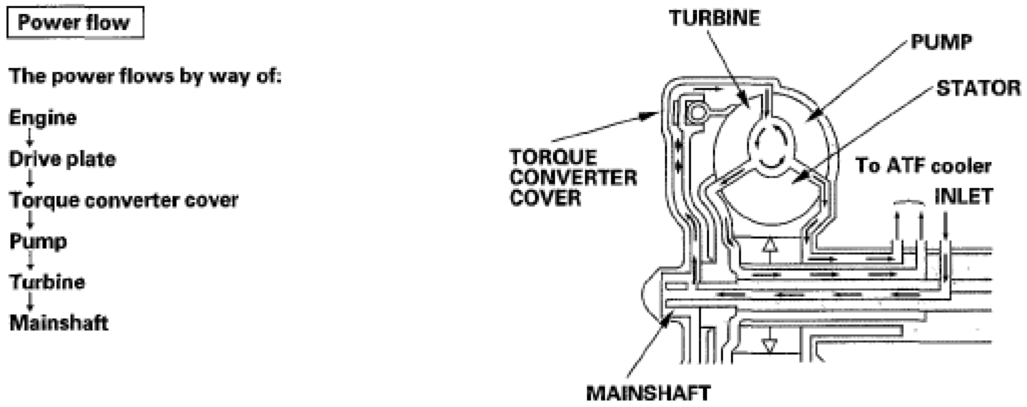
Power flow
The power flows by way of:
Engine
Drive plate
Torque converter cover
Pump
Turbine
Mainshaft
TURBINE
PUMP
STATOR
TORQUE CONVERTER COVER
To ATF cooler
INLET
MAINSHAFT

**Fig. 57: Torque Converter Clutch Lock-Up Off Diagram (Disengaging Torque Converter Clutch)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**No Lock-up**

The PCM turns shift solenoid valve D OFF. The lock-up shift valve is on the right side, and uncovers the torque converter pressure port leading to the back of the torque converter. Torque converter pressure (92) regulated by the regulator valve flows to the lock-up shift valve, and becomes torque converter pressure (94). Torque converter pressure (94) enters into the back of the torque converter, and discharges into the circuit from the front of the torque converter. When the hydraulic pressure flow enters the torque converter from the rear and discharges it from the front, the torque converter clutch piston and cover become disengaged. This is called the non lock-up condition.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

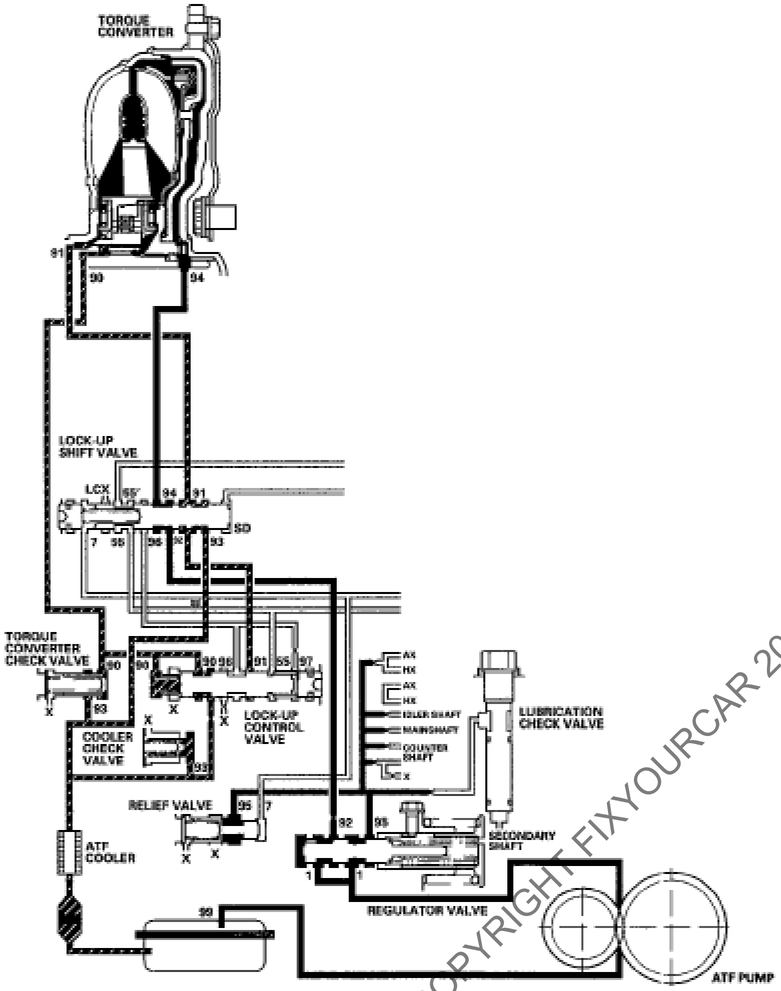
TORQUE CONVERTER
91
90
94
LOCK-UP SHIFT VALVE
LCX
55'
94
91
SD
7
55
96
93
TORQUE CONVERTER CHECK VALVE
90
90
90
96
91
55
97
X
93
X
X
X
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
93
AX
HX
AX
HX
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
X
LUBRICATION CHECK VALVE
RELIEF VALVE
95
7
92
95
SECONDARY SHAFT
X
X
ATF COOLER
1
1
99
REGULATOR VALVE
ATF PUMP

**Fig. 58: Hydraulic Fuel Pressure Flow Diagram (No Lock-Up)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Partial Lock-up**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve D ON. Shift solenoid valve D pressure (SD) is applied to the right end of the lock-up shift valve, which switches the pressure over to the torque converter pressure port leading to the front of the torque converter. Torque converter pressure (91) enters into the front of the torque converter to engage the torque converter clutch piston. The PCM also controls A/T clutch pressure control solenoid valve A to regulate A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure (55) is applied to the lock-up control valve. Torque converter pressure (94) drained from the back of the torque converter is applied to the right side of the lock-up control valve, and torque converter pressure (90) is applied to the left side of the lock-up control valve. The lock-up control valve controls the lock-up volume, by receiving these pressures. The torque converter clutch is engaged partially during torque converter pressure (90) in the left side of the lock-up control valve is higher, and the torque converter clutch is engaged securely according to the volume of pressure in the right side of the lock-up control valve. Under this condition, the torque converter clutch is engaged by pressure entering into the front side of the torque converter; this condition is partial lock-up.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

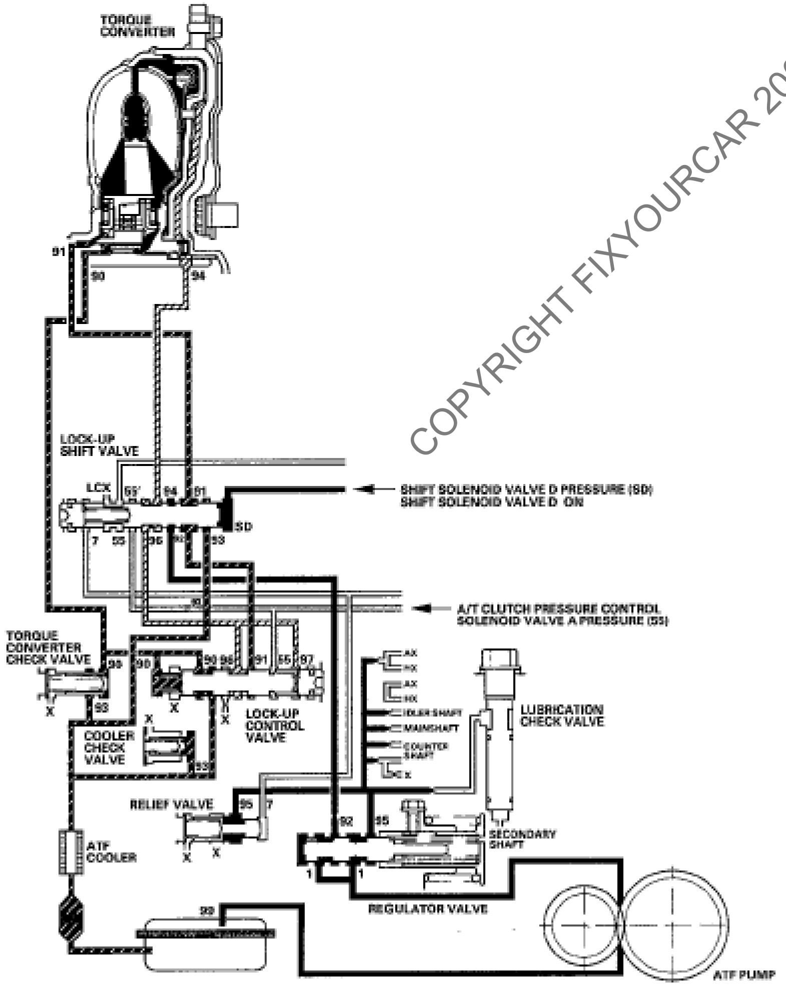
TORQUE CONVERTER
91
90
94
LOCK-UP SHIFT VALVE
LCX
55'
94
91
SD
7
55
96
92
93
SHIFT SOLENOID VALVE D PRESSURE (SD)
SHIFT SOLENOID VALVE D ON
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A PRESSURE (55)
TORQUE CONVERTER CHECK VALVE
99
90
90
96
91
55
97
X
93
X
X
X
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
93
AX
HX
AX
HX
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
CX
LUBRICATION CHECK VALVE
RELIEF VALVE
95
7
X
X
ATF COOLER
92
95
SECONDARY SHAFT
1
1
REGULATOR VALVE
99
ATF PUMP

Fig. 59: Hydraulic Fuel Pressure Flow Diagram (Partial Lock-Up)
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Full Lock-up**

When the vehicle speed increases, the PCM controls A/T clutch pressure control solenoid valve A to increase A/T clutch pressure control solenoid valve A pressure (55). A/T clutch pressure control solenoid valve A pressure (55) is applied to the lock-up control valve, and the lock-up control valve is moved to the left side to release torque converter back pressure (94). Torque converter pressure (91) enters into the front of the torque converter, and the torque converter clutch piston is engaged with the torque converter cover securely by torque converter pressure. Under this condition, torque converter back pressure is released fully, causing the torque converter clutch to be fully engaged; this condition is full lock-up.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

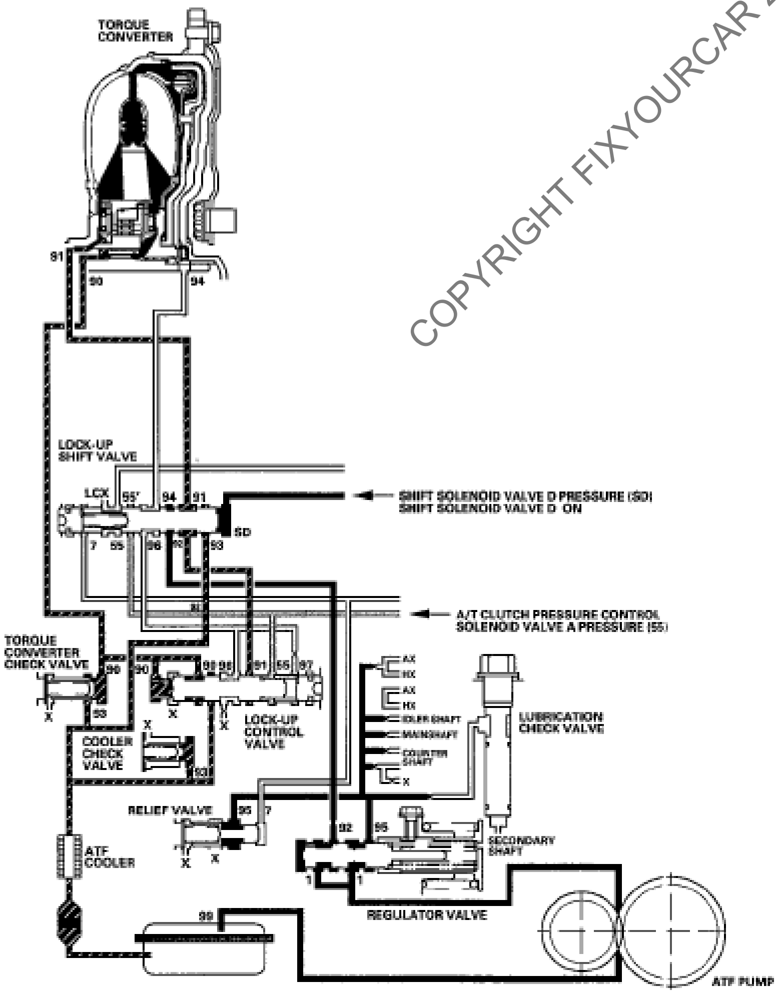
TORQUE CONVERTER
91
90
94
LOCK-UP SHIFT VALVE
LCX
55'
94
91
SD
7
55
96
92
93
SHIFT SOLENOID VALVE D PRESSURE (SD)
SHIFT SOLENOID VALVE D ON
91
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A PRESSURE (55)
TORQUE CONVERTER CHECK VALVE
90
90
92
96
91
55
97
93
X
X
X
X
LOCK-UP CONTROL VALVE
COOLER CHECK VALVE
93
AX
HX
AX
HX
IDLER SHAFT
MAINSHAFT
COUNTER SHAFT
X
LUBRICATION CHECK VALVE
RELIEF VALVE
95
7
X
X
ATF COOLER
92
95
SECONDARY SHAFT
1
1
99
REGULATOR VALVE
ATF PUMP

**Fig. 60: Hydraulic Fuel Pressure Flow Diagram (Full Lock-Up)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Circuit Diagram - PCM A/T Control System**

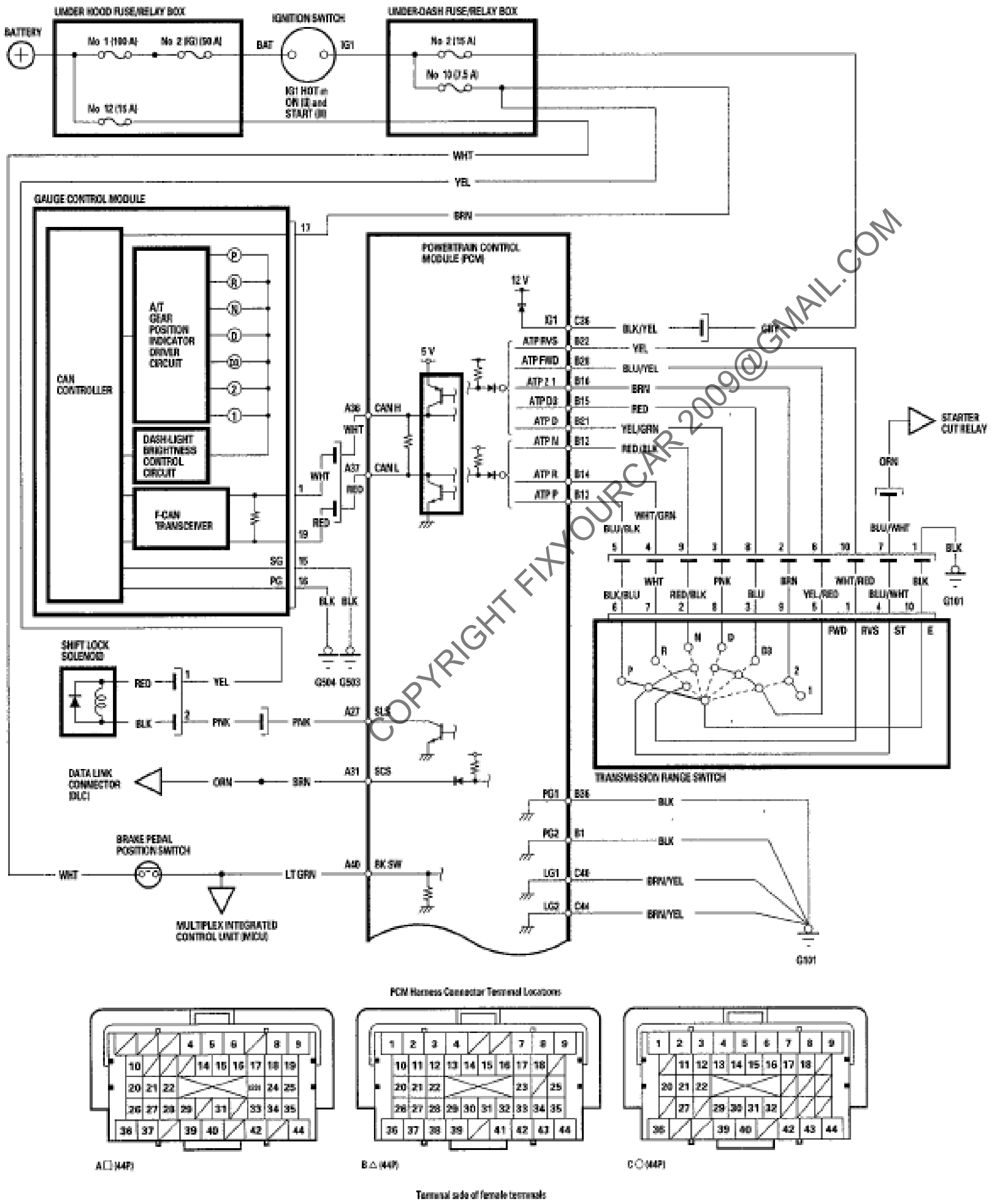
BATTERY
UNDER HOOD FUSE/RELAY BOX
No 1 (100 A)
No 2 (IG) (50 A)
No 12 (15 A)
IGNITION SWITCH
BAT
IG1
IG1 HOT in ON (II) and START (III)
UNDER-DASH FUSE/RELAY BOX
No 2 (15 A)
No 10 (7.5 A)
WHT
YEL
BRN
GAUGE CONTROL MODULE
CAN CONTROLLER
A/T GEAR POSITION INDICATOR DRIVER CIRCUIT
P
R
N
D
D3
2
1
DASH-LIGHT BRIGHTNESS CONTROL CIRCUIT
F-CAN TRANSCEIVER
SG
PG
17
1
19
15
16
POWERTRAIN CONTROL MODULE (PCM)
12 V
5 V
IG1
C36
ATP RVS
B22
ATP FWD
B26
ATP 2 1
B16
ATP D3
B15
ATP D
B21
ATP N
B12
ATP R
B14
ATP P
B13
A36
CAN H
A37
CAN L
BLK/YEL
YEL
BLU/YEL
BRN
RED
YEL/GRN
RED/BLK
WHT/GRN
BLU/BLK
ORN
STARTER CUT RELAY
BLU/WHT
BLK
G101
BLK/BLU
PNK
BLU
YEL/RED
WHT/RED
FWD
RVS
ST
E
TRANSMISSION RANGE SWITCH
BLK
BLK
G504
G503
SHIFT LOCK SOLENOID
RED
YEL
BLK
PNK
A27
SLS
DATA LINK CONNECTOR (DLC)
ORN
BRN
A31
SCS
PG1
B36
PG2
B1
LG1
C46
LG2
C44
BRN/YEL
BRAKE PEDAL POSITION SWITCH
WHT
LT GRN
A40
BK SW
MULTIPLEX INTEGRATED CONTROL UNIT (MICU)
PCM Harness Connector Terminal Locations
A □ (44P)
B △ (44P)
C ○ (44P)
Terminal side of female terminals

**Fig. 61: PCM A/T Control System - Circuit Diagram (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

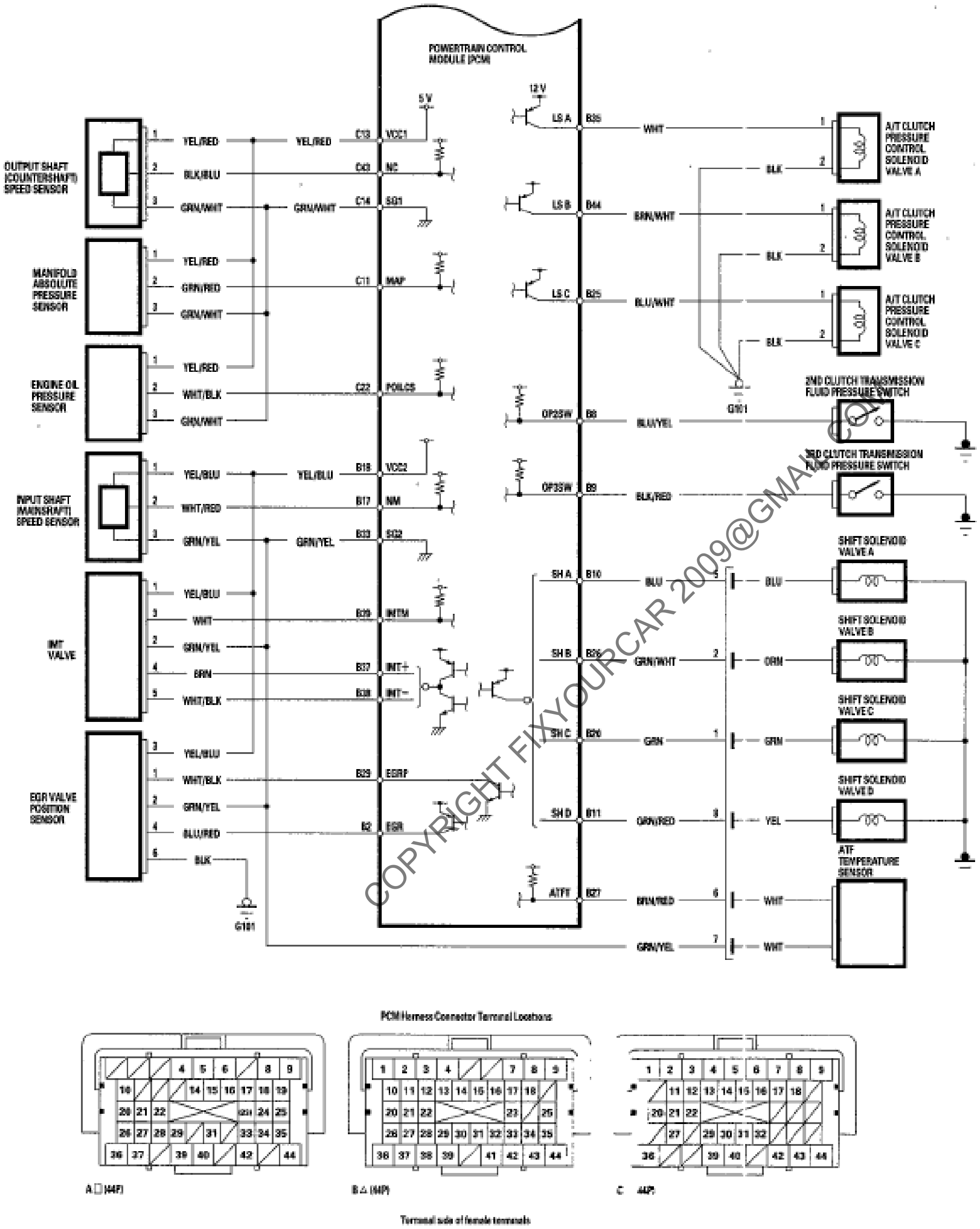
POWERTRAIN CONTROL MODULE (PCM)
5 V
12 V
OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR
YEL/RED
BLK/BLU
GRN/WHT
C13 VCC1
C43 NC
C14 SG1
MANIFOLD ABSOLUTE PRESSURE SENSOR
GRN/RED
C11 MAP
ENGINE OIL PRESSURE SENSOR
WHT/BLK
C22 POILCS
INPUT SHAFT (MAINSHAFT) SPEED SENSOR
YEL/BLU
WHT/RED
GRN/YEL
B18 VCC2
B17 NM
B33 SG2
IMT VALVE
WHT
GRN
B09 INTM
B37 INT+
B38 INT−
EGR VALVE POSITION SENSOR
BLU/RED
BLK
B29 EGRP
B2 EGR
G101
LS A B35 WHT
LS B B44 BRN/WHT
LS C B25 BLU/WHT
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
OP2SW B8 BLU/YEL
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH
OP3SW B9 BLK/RED
SHIFT SOLENOID VALVE A
SH A B10 BLU
SHIFT SOLENOID VALVE B
SH B B26 GRN/WHT ORN
SHIFT SOLENOID VALVE C
SH C B20 GRN
SHIFT SOLENOID VALVE D
SH D B11 GRN/RED YEL
ATF TEMPERATURE SENSOR
ATFT B27 BRN/RED
PCM Harness Connector Terminal Locations
A □ (44P)
B △ (44P)
C (44P)
Terminal side of female terminals

**Fig. 62: PCM A/T Control System - Circuit Diagram (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

### DTC P0107: Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage Input; DTC P0108: Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage Input

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it to ON (II) again.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0107 or P0108 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

   - P0107 (see **DTC P0107: MAP SENSOR CIRCUIT LOW VOLTAGE** )
   - P0108 (see **DTC P0108: MAP SENSOR CIRCUIT HIGH VOLTAGE** )

   **NO** -Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0107 or P0108 indicated in the A/T SYSTEM?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

*Is DTC P0107 or P0108 indicated in the A/T SYSTEM?*

**YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

**NO -**Go to step 9.

9. Monitor the OBD STATUS for P0107 or P0108 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0335: Crankshaft Position (CKP) Sensor No Signal; DTC P0365: Camshaft Position (CMP) Sensor No Signal**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the PGM-FI SYSTEM?*

**YES -**Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

- P0335 (see **DTC P0335: CKP SENSOR NO SIGNAL** )
- P0365 (see **DTC P0365: CMP SENSOR NO SIGNAL** )

**NO -**Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the A/T SYSTEM?*

   **YES -**Go to step 6.

   **NO -**Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the A/T SYSTEM?*

   **YES -**Check for poor connections or loose terminals at the PCM, If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

   **NO -**Go to step 9.

9. Monitor the OBD STATUS for P0335 or P0365 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0339: Crankshaft Position (CKP) Sensor Intermittent Interruption; DTC P0369: Camshaft Position (CMP) Sensor Intermittent Interruption**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and raise the engine speed to at least 2,000 rpm.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

   - P0339 (see **DTC P0339: CKP SENSOR INTERMITTENT INTERRUPTION** )
   - P0369 (see **DTC P0369: CMP SENSOR CIRCUIT INTERMITTENT INTERRUPTION** )

   **NO** -Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the A/T SYSTEM?*

**YES -**Go to step 6.

**NO -**Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the A/T SYSTEM?*

   **YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

   **NO -**Go to step 9.

9. Monitor the OBD STATUS for P0339 or P0369 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0603: PCM Internal Control Module Keep Alive Memory (KAM) Error**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0603 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to **DTC P0603: ECM/PCM INTERNAL CONTROL MODULE KEEP ALIVE MEMORY (KAM) ERROR** in the PGM-FI system .

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0603 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0603 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

**NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

### DTC P0705: Short in Transmission Range Switch Circuit (Multiple Shift-position Input)

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
5. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 6.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wires between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

   *Is the switch OK?*

**YES** -With the switch connector disconnected, go to step 8.

**NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 50.

8. Turn the ignition switch to ON (II).
9. Measure the voltage between transmission range switch connector terminals No. 6 and No. 10.

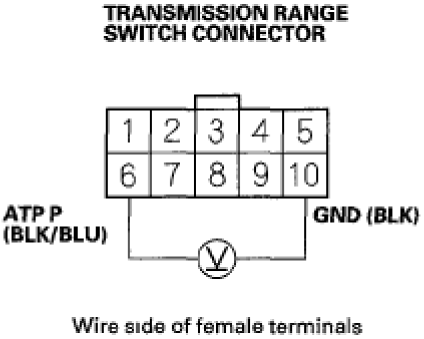
TRANSMISSION RANGE
SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP P
(BLK/BLU)
GND (BLK)
V
Wire side of female terminals

**Fig. 63: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 6 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 15.

**NO** -Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector B (44P).
13. Check for continuity between PCM connector terminal B13 and body ground.

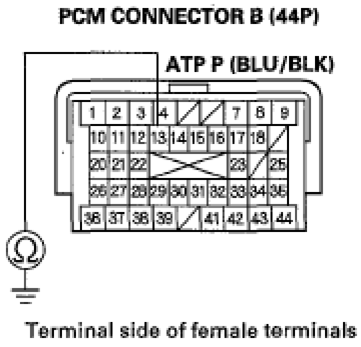
PCM CONNECTOR B (44P)
ATP P (BLU/BLK)
Terminal side of female terminals

**Fig. 64: Checking Continuity Between PCM Connector Terminal B13 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B13 and the transmission range switch, then go to step 50.

**NO -**Go to step 14.

14. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

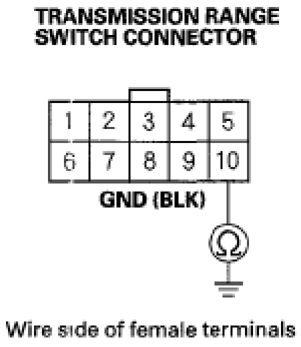
TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
GND (BLK)
Wire side of female terminals

**Fig. 65: Checking Continuity Between Transmission Range Switch Connector Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 57.

**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 50.

15. Measure the voltage between transmission range switch connector terminals No. 7 and No. 10.

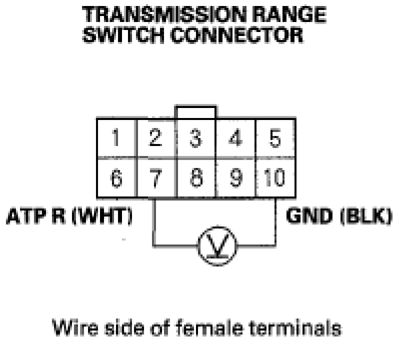
TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP R (WHT)
GND (BLK)
V
Wire side of female terminals

**Fig. 66: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 7 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 20.

**NO** -Go to step 16.

16. Turn the ignition switch to LOCK (0).
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector B (44P).
19. Check for continuity between PCM connector terminal B14 and body ground.

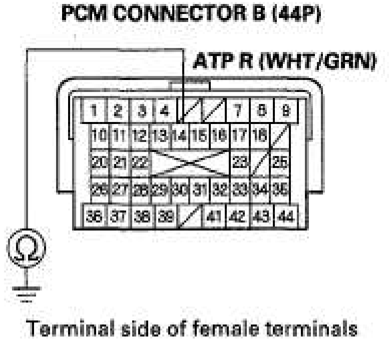
PCM CONNECTOR B (44P)
ATP R (WHT/GRN)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
Ω
Terminal side of female terminals

**Fig. 67: Checking Continuity Between PCM Connector Terminal B14 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B14 and the transmission range switch, then go to step 50.

**NO -**Go to step 57.

20. Measure the voltage between transmission range switch connector terminals No. 2 and No. 10.

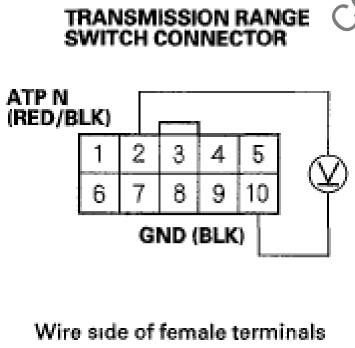
TRANSMISSION RANGE
SWITCH CONNECTOR
ATP N
(RED/BLK)
1 2 3 4 5
6 7 8 9 10
V
GND (BLK)
Wire side of female terminals

**Fig. 68: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 2 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 25.

**NO -**Go to step 21.

21. Turn the ignition switch to LOCK (0).
22. Jump the SCS line with the HDS.
23. Disconnect PCM connector B (44P).
24. Check for continuity between PCM connector terminal B12 and body ground.

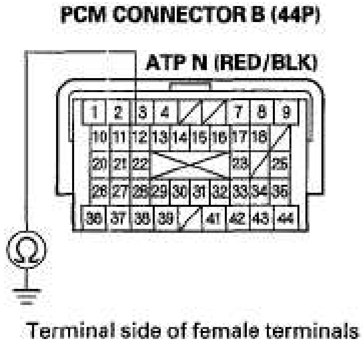
PCM CONNECTOR B (44P)
ATP N (RED/BLK)
Terminal side of female terminals

**Fig. 69: Checking Continuity Between PCM Connector Terminal B12 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B12 and the transmission range switch, then go to step 50.

**NO -**Go to step 57.

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25. Measure the voltage between transmission range switch connector terminals No. 8 and No. 10.

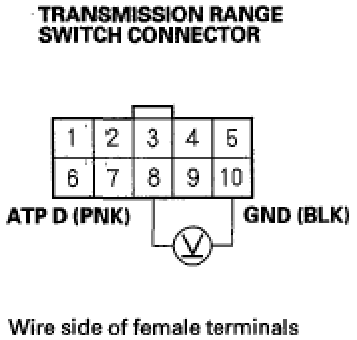

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP D (PNK)
GND (BLK)
Wire side of female terminals

**Fig. 70: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 8 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 30.

**NO -**Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Jump the SCS line with the HDS.
28. Disconnect PCM connector B (44P).
29. Check for continuity between PCM connector terminal B21 and body ground.

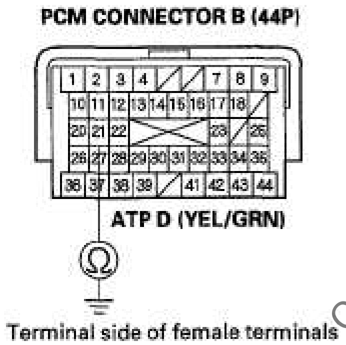

PCM CONNECTOR B (44P)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
ATP D (YEL/GRN)
Ω
Terminal side of female terminals

**Fig. 71: Checking Continuity Between PCM Connector Terminal B21 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B21 and the transmission range switch, then go to step 50.

**NO -**Go to step 57.

30. Measure the voltage between transmission range switch connector terminals No. 3 and No. 10.

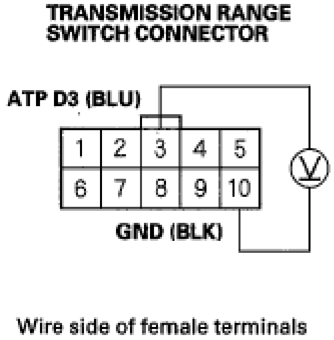

TRANSMISSION RANGE SWITCH CONNECTOR
ATP D3 (BLU)
1
2
3
4
5
6
7
8
9
10
V
GND (BLK)
Wire side of female terminals

**Fig. 72: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 3 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 35.

**NO -**Go to step 31.

31. Turn the ignition switch to LOCK (0).
32. Jump the SCS line with the HDS.
33. Disconnect PCM connector B (44P).
34. Check for continuity between PCM connector terminal B15 and body ground.

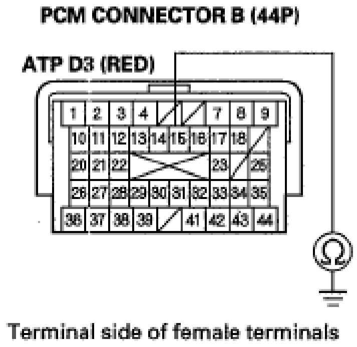

PCM CONNECTOR B (44P)
ATP D3 (RED)
Ω
Terminal side of female terminals

**Fig. 73: Checking Continuity Between PCM Connector Terminal B15 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B15 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

35. Measure the voltage between transmission range switch connector terminals No. 9 and No. 10.

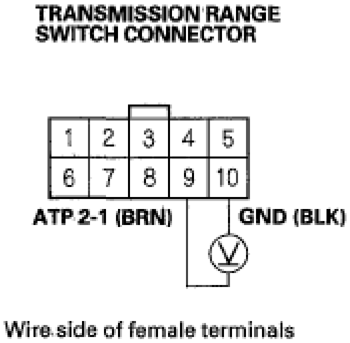

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP 2-1 (BRN)
GND (BLK)
V
Wire side of female terminals

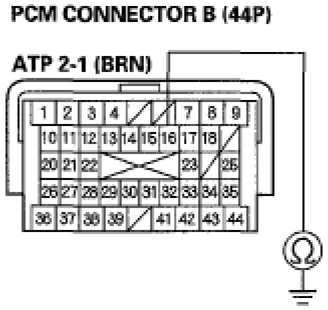
**Fig. 74: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 9 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 40.

**NO** -Go to step 36.

36. Turn the ignition switch to LOCK (0).
37. Jump the SCS line with the HDS.
38. Disconnect PCM connector B (44P).
39. Check for continuity between PCM connector terminal B16 and body ground.


PCM CONNECTOR B (44P)
ATP 2-1 (BRN)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
Ω

Terminal side of female terminals

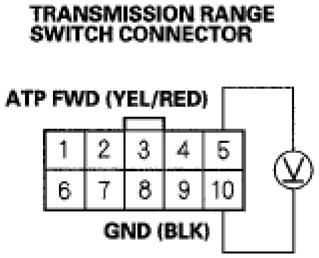
**Fig. 75: Checking Continuity Between PCM Connector Terminal B16 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B16 and the transmission range switch, then go to step 50.

**NO -**Go to step 57.

40. Measure the voltage between transmission range switch connector terminals No. 5 and No. 10.


TRANSMISSION RANGE SWITCH CONNECTOR
ATP FWD (YEL/RED)
1 2 3 4 5
6 7 8 9 10
GND (BLK)
V

Wire side of female terminals

**Fig. 76: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 45.

**NO** -Go to step 41.

41. Turn the ignition switch to LOCK (0).
42. Jump the SCS line with the HDS.
43. Disconnect PCM connector B (44P).
44. Check for continuity between PCM connector terminal B28 and body ground.

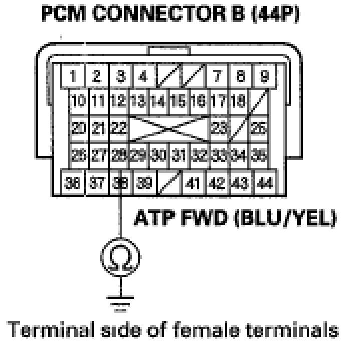

PCM CONNECTOR B (44P)
1
2
3
4
7
8
9
10
11
12
13
14
15
16
17
18
20
21
22
23
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
41
42
43
44
ATP FWD (BLU/YEL)
Ω
Terminal side of female terminals

**Fig. 77: Checking Continuity Between PCM Connector Terminal B28 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B28 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

45. Measure the voltage between transmission range switch connector terminals No. 1 and No. 10.

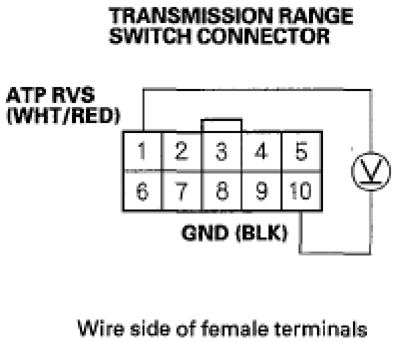

TRANSMISSION RANGE SWITCH CONNECTOR
ATP RVS (WHT/RED)
1
2
3
4
5
6
7
8
9
10
V
GND (BLK)
Wire side of female terminals

**Fig. 78: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 1 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 57.

**NO -**Go to step 46.

46. Turn the ignition switch to LOCK (0).
47. Jump the SCS line with the HDS.
48. Disconnect PCM connector B (44P).
49. Check for continuity between PCM connector terminal B22 and body ground.

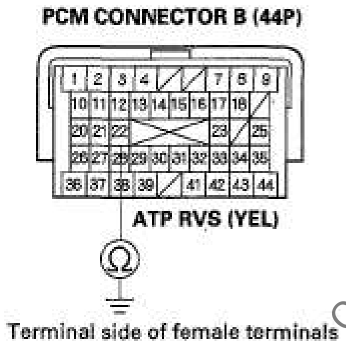

PCM CONNECTOR B (44P)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
ATP RVS (YEL)
Ω
Terminal side of female terminals

**Fig. 79: Checking Continuity Between PCM Connector Terminal B22 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B22 and the transmission range switch, then go to step 50.

**NO -**Go to step 57.

50. Reconnect all connectors.
51. Turn the ignition switch to ON (II).

52. Clear the DTC with the HDS.
53. Start the engine.
54. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
55. Check for DTCs with the HDS.

    *Is DTC P0705 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between the transmission range switch and the PCM, then go to step 1.

    **NO -**Go to step 56.

56. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 55, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 53.

57. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
58. Start the engine.
59. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
60. Check for DTCs with the HDS.

    *Is DTC P0705 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 58. If the PCM was substituted, go to step 1.

**NO -**Go to step 61.

61. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 60, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 58. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 58.

### DTC P0706: Open in Transmission Range Switch Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
4. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.

5. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 4, then go to step 6.
6. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 7.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

   *Is the switch OK?*

   **YES -**Go to step 9.

   **NO -**Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 30.

9. Adjust the shift cable (see **SHIFT CABLE ADJUSTMENT** ).
10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 15.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 12.

15. Shift to D, and check the ATP FWD and ATP D in the DATA LIST with the HDS.

    *Are ATP FWD and ATP D ON?*

    **YES** -Go to step 16.

    **NO** -Go to step 22.

16. Shift to D3, and check the ATP FWD and ATP D3 in the DATA LIST with the HDS.

    *Are ATP FWD and ATP D3 ON?*

    **YES** -Go to step 17.

    **NO** -Go to step 22.

17. Shift to 2, and check the ATP FWD and ATP 2-1 in the DATA LIST with the HDS.

    *Are ATP FWD and ATP 2-1 ON?*

    **YES** -Go to step 18.

    **NO** -Go to step 22.

18. Clear the DTC with the HDS.
19. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.
20. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 19, then go to step 21.
21. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Go to step 22.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 19.

22. Turn the ignition switch to LOCK (0).
23. Disconnect the transmission range switch connector.
24. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

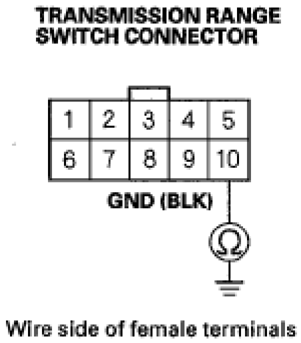

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
GND (BLK)
Ω
Wire side of female terminals

**Fig. 80: Checking Continuity Between Transmission Range Switch Connector Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 25.

**NO** -Repair open in the wire between the transmission range switch and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 30.

25. Turn the ignition switch to ON (II).
26. Measure the voltage between transmission range switch connector terminals No. 5 and No. 10.

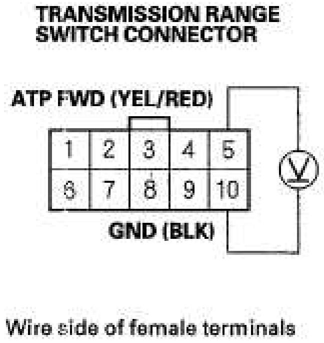

TRANSMISSION RANGE SWITCH CONNECTOR
ATP FWD (YEL/RED)
1
2
3
4
5
6
7
8
9
10
V
GND (BLK)
Wire side of female terminals

**Fig. 81: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 27.

**NO -**Repair open in the wire between the transmission range switch and PCM connector terminal B28, then go to step 30.

27. Measure the voltage between transmission range switch connector terminals No. 8 and No. 10.

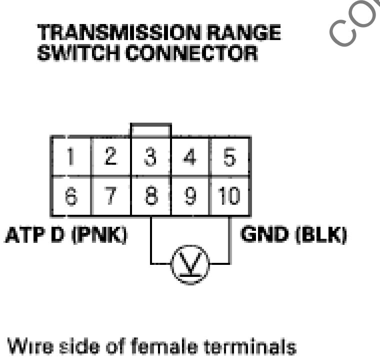

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP D (PNK)
GND (BLK)
V
Wire side of female terminals

**Fig. 82: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 8 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 28.

**NO -**Repair open in the wire between the transmission range switch and PCM connector terminal B21, then go to step 30.

28. Measure the voltage between transmission range switch connector terminals No. 3 and No. 10.

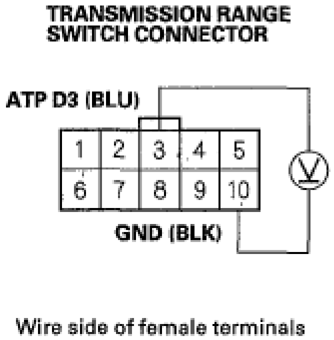

TRANSMISSION RANGE
SWITCH CONNECTOR
ATP D3 (BLU)
1
2
3
4
5
6
7
8
9
10
V
GND (BLK)
Wire side of female terminals

**Fig. 83: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 3 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 29.

**NO -**Repair open in the wire between the transmission range switch and PCM connector terminal B15, then go to step 30.

29. Measure the voltage between transmission range switch connector terminals No. 9 and No. 10.

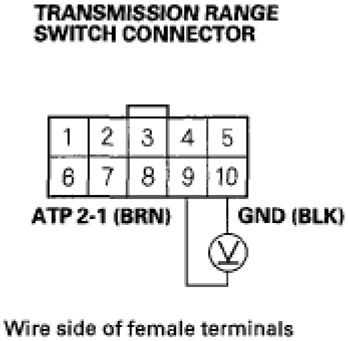

TRANSMISSION RANGE
SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP 2-1 (BRN)
GND (BLK)
V
Wire side of female terminals

**Fig. 84: Measuring Voltage Between Transmission Range Switch**

**Connector Terminals No. 9 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 37.

**NO -**Repair open in the wire between the transmission range switch and PCM connector terminal B16, then go to step 30.

30. Reconnect all connectors.
31. Turn the ignition switch to ON (II).
32. Clear the DTC with the HDS.
33. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
34. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 33, then go to step 35.
35. Check for DTCs with the HDS.

    *Is DTC P0706 indicated?*

    **YES -**Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

    **NO -**Go to step 36.

36. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 35, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 33.

37. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
38. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
39. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 38, then go to step 40.
40. Check for DTCs with the HDS.

    *Is DTC P0706 indicated?*

    **YES -**Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 38. If the PCM was substituted, go to step 1.

    **NO -**Go to step 41.

41. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 38. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 38.

**DTC P0711: Problem in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any**

**on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

   *Does the ATF temperature exceed the ambient air temperature?*

   **YES -**Record the ATF temperature. Leave the engine off for at least 30 minutes, then go to step 3.

   **NO -**Record the ATF temperature. Test the stall speed RPM (see **STALL SPEED TEST** ) three times, then go to step 3.

3. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

   *Did the ATF temperature change?*

   **YES -**Leave the engine off for at least 30 minutes, then go to step 4.

   **NO -**Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 6.

4. Check the ECT SENSOR in the DATA LIST with the HDS.

   *Does the ECT SENSOR read about the same as the ambient air temperature?*

   **YES -**Go to step 5.

   **NO -**Leave the engine off until ECT SENSOR reads the same as the ambient air temperature, then go to step 5.

5. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

*Does the ATF temperature read about the same as ECT SENSOR?*

**YES -**Go to step 12.

**NO -**Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 6.

6. Clear the DTC with the HDS.
7. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
8. Allow the engine coolant temperature to cool to the ambient air temperature.
9. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and wait for at least 20 seconds, then drive the vehicle at speeds over 19 mph (31 km/h) for at least 5 minutes.
10. Check for DTCs with the HDS.

    *Is DTC P0711 indicated?*

    **YES -**Check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1.

    **NO -**Go to step 11.

11. Monitor the OBD STATUS for P0711 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

12. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

13. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
14. Allow the engine coolant temperature to cool to the ambient air temperature.
15. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and wait for at least 20 seconds, then drive the vehicle at speeds over 19 mph (31 km/h) for at least 5 minutes.
16. Check for DTCs with the HDS.

    *Is DTC P0711 indicated?*

    **YES -**Check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 13. If the PCM was substituted, go to step 1.

    **NO -**Go to step 17.

17. Monitor the OBD STATUS for P0711 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 13. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 13.

**DTC P0712: Short in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Is the ATF TEMP SENSOR voltage 0.07 V or less?*

   **YES -**Go to step 3.

   **NO -**Intermittent failure, the system is OK at this time. Check for an intermittent short to body ground in the ATFT wire between the ATF temperature sensor and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the shift solenoid harness connector.
5. Turn the ignition switch to ON (II).
6. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Is the ATF TEMP SENSOR voltage 0.07 V or less?*

   **YES -**Go to step 7.

   **NO -**Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 12.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector B (44P).
10. Check for continuity between shift solenoid harness connector terminal No. 6 and body ground.

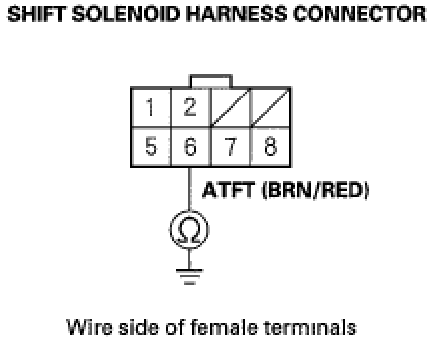

SHIFT SOLENOID HARNESS CONNECTOR
1
2
5
6
7
8
ATFT (BRN/RED)
Ω
Wire side of female terminals

**Fig. 85: Checking Continuity Between Shift Solenoid Harness Connector Terminal No. 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B27 and shift solenoid harness connector terminal No. 6, then go to step 12.

**NO -**Go to step 11.

11. Check for continuity between shift solenoid harness connector terminal No. 6 and body ground.

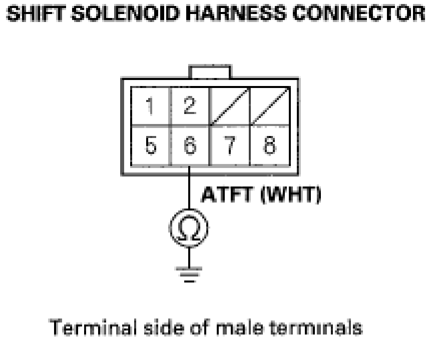

SHIFT SOLENOID HARNESS CONNECTOR
1
2
5
6
7
8
ATFT (WHT)
Ω
Terminal side of male terminals

**Fig. 86: Checking Continuity Between Shift Solenoid Harness Connector Terminal No. 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 12.

**NO** -Go to step 18.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine with the shift lever in P, and wait for at least 20 seconds.
16. Check for DTCs with the HDS.

*Is DTC P0712 indicated?*

**YES** -Check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM, then go to step 1.

**NO** -Go to step 17.

17. Monitor the OBD STATUS for P0712 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine with the shift lever in P, and wait for at least 20 seconds.
20. Check for DTCs with the HDS.

*Is DTC P0712 indicated?*

**YES** -Check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0712 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

**DTC P0713: Open in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Does the ATF TEMP SENSOR voltage exceed 4.93 V?*

**YES -**Go to step 3.

**NO -**Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the ATF temperature sensor and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the shift solenoid harness connector.
5. Connect shift solenoid harness connector terminals No. 6 and No. 7 with a jumper wire.

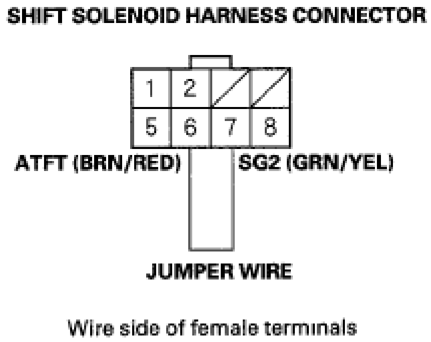

SHIFT SOLENOID HARNESS CONNECTOR
1
2
5
6
7
8
ATFT (BRN/RED)
SG2 (GRN/YEL)
JUMPER WIRE
Wire side of female terminals

**Fig. 87: Connecting Shift Solenoid Harness Connector Terminals 6 And 7 With A Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Turn the ignition switch to ON (II).
7. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

*Does the ATF TEMP SENSOR voltage exceed 4.93 V?*

**YES -**Go to step 8.

**NO -**Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 21.

8. Turn the ignition switch to LOCK (0).
9. Remove the jumper wire from the shift solenoid harness connector.
10. Turn the ignition switch to ON (II).

11. Measure the voltage between shift solenoid harness connector terminal No. 6 and body ground.

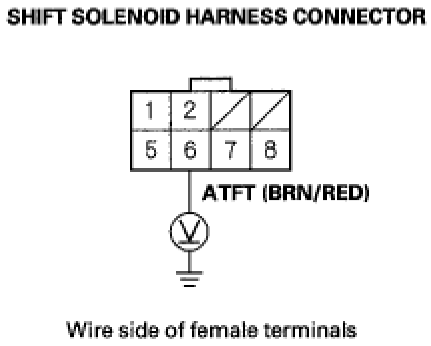

SHIFT SOLENOID HARNESS CONNECTOR
1
2
5
6
7
8
ATFT (BRN/RED)
V
Wire side of female terminals

**Fig. 88: Measuring Voltage Between Shift Solenoid Harness Connector Terminal 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 12.

**NO -**Go to step 17.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Connect shift solenoid harness connector terminal No. 7 and body ground with a jumper wire.

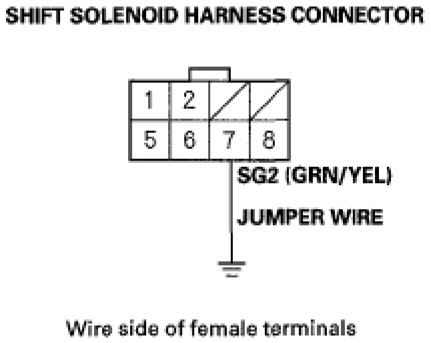

SHIFT SOLENOID HARNESS CONNECTOR
1
2
5
6
7
8
SG2 (GRN/YEL)
JUMPER WIRE
Wire side of female terminals

**Fig. 89: Connecting Shift Solenoid Harness Connector Terminal 7 And**

**Body Ground With A Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check for continuity between PCM connector terminal B33 and body ground.

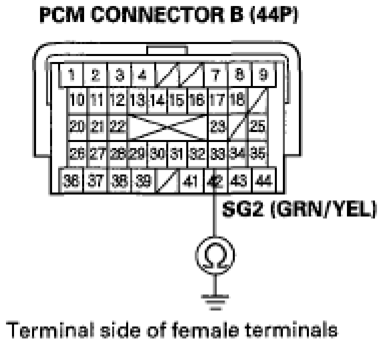

PCM CONNECTOR B (44P)
1
2
3
4
7
8
9
10
11
12
13
14
15
16
17
18
20
21
22
23
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
41
42
43
44
SG2 (GRN/YEL)
Ω
Terminal side of female terminals

**Fig. 90: Checking Continuity Between PCM Connector Terminal B33 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 27.

**NO -**Repair open in the wire between PCM connector terminal B33 and the ATF temperature sensor, then go to step 21.

17. Turn the ignition switch to LOCK (0).
18. Jump the SCS line with the HDS.
19. Disconnect PCM connector B (44P).
20. Check for continuity between PCM connector terminal B27 and shift solenoid harness connector terminal No. 6.

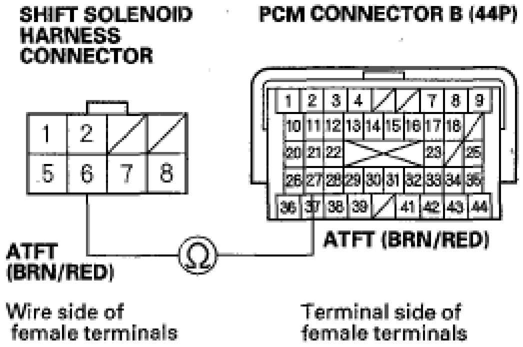

SHIFT SOLENOID HARNESS CONNECTOR
PCM CONNECTOR B (44P)
1
2
5
6
7
8
ATFT (BRN/RED)
ATFT (BRN/RED)
Wire side of female terminals
Terminal side of female terminals

**Fig. 91: Checking Continuity Between PCM Connector Terminal B27 And Shift Solenoid Harness Connector Terminal No. 6**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 27.

**NO -**Repair open in the wire between PCM connector terminal B27 and the ATF temperature sensor, then go to step 21.

21. Reconnect all connectors.
22. Turn the ignition switch to ON (II).
23. Clear the DTC with the HDS.
24. Start the engine with the shift lever in P, and wait for at least 20 seconds.
25. Check for DTCs with the HDS.

    *Is DTC P0713 indicated?*

    **YES -**Check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1.

    **NO -**Go to step 26.

26. Monitor the OBD STATUS for P0713 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step

25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

27. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
28. Start the engine with the shift lever in P, and wait for at least 20 seconds.
29. Check for DTCs with the HDS.

*Is DTC P0713 indicated?*

**YES -**Check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 28. If the PCM was substituted, go to step 1.

**NO -**Go to step 30.

30. Monitor the OBD STATUS for P0713 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 29, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 28. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 28.

**DTC P0716: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit; DTC P0717: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input)**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Check for proper input shaft (mainshaft) speed sensor installation (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ).
2. Turn the ignition switch to ON (II).
3. Clear the DTC with the HDS.
4. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
5. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slow down and stop the wheels.
6. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 7.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector C (44P).
10. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

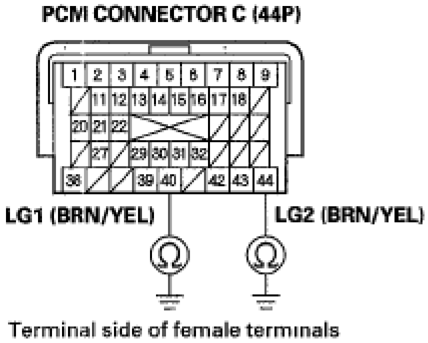

PCM CONNECTOR C (44P)
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18
20 21 22
27 29 30 31 32
38 39 40 42 43 44
LG1 (BRN/YEL)
LG2 (BRN/YEL)
Terminal side of female terminals

**Fig. 92: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 11.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see**CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

11. Connect PCM connector C (44P).
12. Disconnect the input shaft (mainshaft) speed sensor connector.
13. Turn the ignition switch to ON (II).
14. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 1 and body ground.

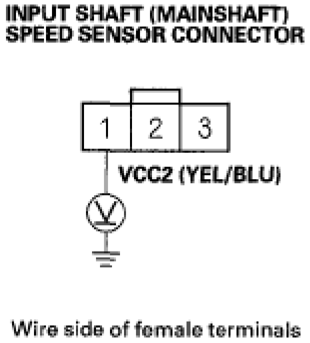

INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1 2 3
VCC2 (YEL/BLU)
Wire side of female terminals

**Fig. 93: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 1 And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 18.

**NO -**Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Disconnect PCM connector B (44P).
17. Check for continuity between PCM connector terminal B18 and input shaft (mainshaft) speed sensor connector terminal No. 1.

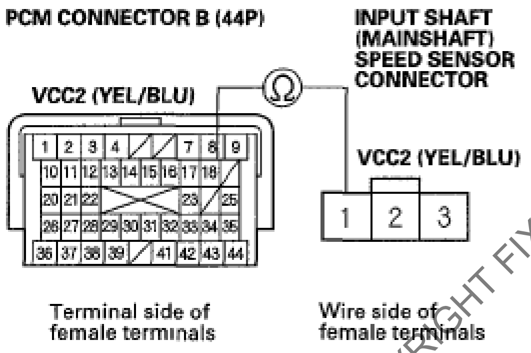

PCM CONNECTOR B (44P)
INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
VCC2 (YEL/BLU)
Ω
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
VCC2 (YEL/BLU)
1 2 3
Terminal side of female terminals
Wire side of female terminals

**Fig. 94: Checking Continuity Between PCM Connector Terminal B18 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 20.

**NO -**Repair open in the wire between PCM connector terminal B18 and the input shaft {mainshaft) speed sensor, then go to step 32.

18. Turn the ignition switch to LOCK (0).
19. Disconnect PCM connector B (44P).
20. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

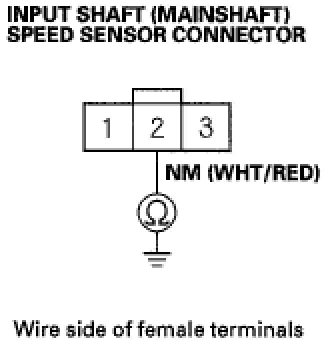

INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1
2
3
NM (WHT/RED)
Ω
Wire side of female terminals

**Fig. 95: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

**NO -**Go to step 21.

21. Check for continuity between PCM connector, terminal B33 and input shaft (mainshaft) speed sensor connector terminal No. 3.

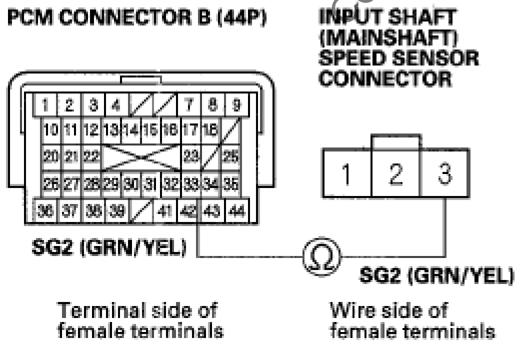

PCM CONNECTOR B (44P)
INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1
2
3
SG2 (GRN/YEL)
Ω
SG2 (GRN/YEL)
Terminal side of female terminals
Wire side of female terminals

**Fig. 96: Checking Continuity Between PCM Connector, Terminal B33 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 22.

**NO** -Repair open in the wire between PCM connector terminal B33 and the input shaft (mainshaft) speed sensor, then go to step 32.

22. Connect PCM connector B (44P).
23. Turn the ignition switch to ON (II).
24. Measure the voltage between input shaft (mainshaft) speed sensor connector terminals No. 2 and No. 3.

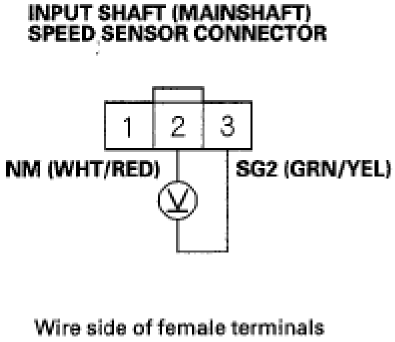

INPUT SHAFT (MAINSHAFT)
SPEED SENSOR CONNECTOR
1
2
3
NM (WHT/RED)
SG2 (GRN/YEL)
V
Wire side of female terminals

**Fig. 97: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminals 2 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 28.

**NO** -Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector B (44P).
27. Check for continuity between PCM connector terminal B17 and input shaft (mainshaft) speed sensor connector terminal No. 2.

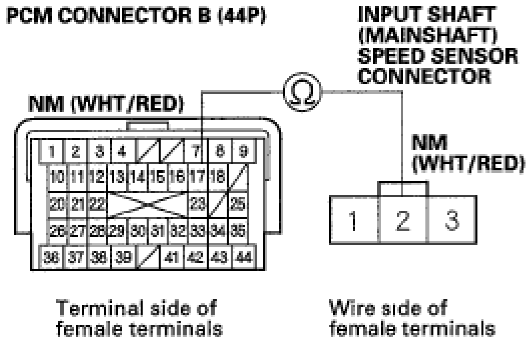

PCM CONNECTOR B (44P)
INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
NM (WHT/RED)
Ω
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
NM (WHT/RED)
1 2 3
Terminal side of female terminals
Wire side of female terminals

**Fig. 98: Checking Continuity Between PCM Connector Terminal B17 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 38.

**NO -**Repair open in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

28. Connect the input shaft (mainshaft) speed sensor connector.
29. Clear the DTC with the HDS.
30. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slow down and stop the wheels.
31. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

**NO -**Go to step 38.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.

35. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slowdown and stop the wheels.
36. Check for DTCs with the HDS.

    *Is DTC P0716 or P0717 indicated?*

    **YES -**Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

    **NO -**Go to step 37.

37. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 36, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

38. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
39. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for more than 10 seconds. Slow down and stop the wheels.
40. Check for DTCs with the HDS.

    *Is DTC P0716 or P0717 indicated?*

    **YES -**Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1.

**NO** -Go to step 41.

41. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 39.

### DTC P0718: Input Shaft (Mainshaft) Speed Sensor Intermittent Failure

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Go to step 6.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the input shaft (mainshaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

*Are the connector terminals OK?*

**YES -**Go to step 8.

**NO -**Repair the connector terminals, then go to step 8.

8. Connect the input shaft (mainshaft) speed sensor connector.
9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Go to step 12.

**NO -**If the HDS indicates PASSED, troubleshooting is complete. If the HDS indicates NOT COMPLETED, go to step 9.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector C (44P).

15. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

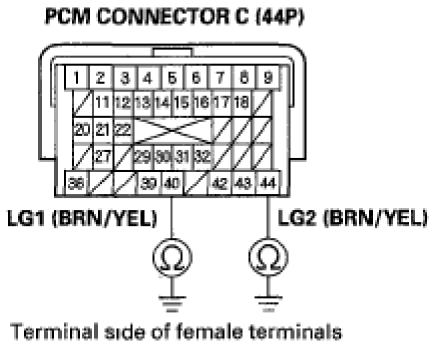

PCM CONNECTOR C (44P)
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18
20 21 22
27 29 30 31 32
36 39 40 42 43 44
LG1 (BRN/YEL)
LG2 (BRN/YEL)
Ω
Ω
Terminal side of female terminals

**Fig. 99: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 16.

**NO -**Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

16. Connect PCM connector C (44P).
17. Disconnect the input shaft (mainshaft) speed sensor connector.
18. Turn the ignition switch to ON (II).
19. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 1 and body ground.

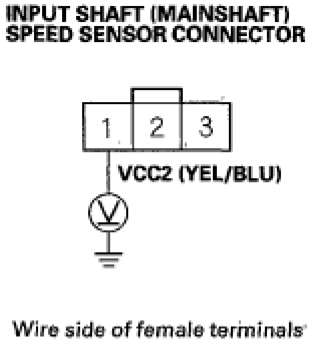

INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1
2
3
VCC2 (YEL/BLU)
V
Wire side of female terminals

**Fig. 100: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 20.

**NO -**Go to step 29.

20. Turn the ignition switch to LOCK (0).
21. Disconnect PCM connector B (44P).
22. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

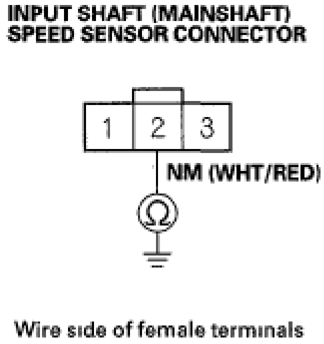

INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1
2
3
NM (WHT/RED)
Ω
Wire side of female terminals

**Fig. 101: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

**NO -**Go to step 23.

23. Connect PCM connector B (44P).
24. Turn the ignition switch to ON (II).
25. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

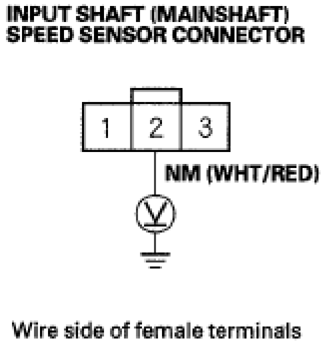

INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
1
2
3
NM (WHT/RED)
V
Wire side of female terminals

**Fig. 102: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

**NO -**Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Disconnect PCM connector B (44P).
28. Check for continuity between PCM connector terminal B17 and input shaft (mainshaft) speed sensor connector terminal No. 2.

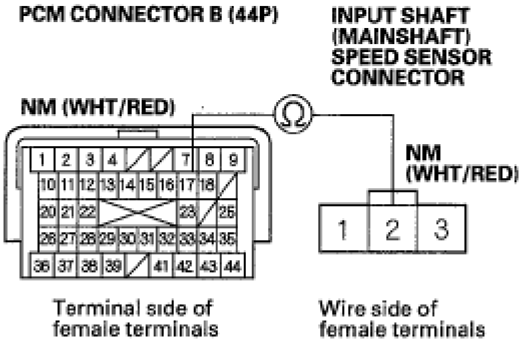

PCM CONNECTOR B (44P)
INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
NM (WHT/RED)
NM (WHT/RED)
1
2
3
Terminal side of female terminals
Wire side of female terminals

**Fig. 103: Checking Continuity Between PCM Connector Terminal B17 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 39.

**NO -**Repair open in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

29. Turn the ignition switch to LOCK (0).
30. Disconnect PCM connector B (44P).
31. Check for continuity between PCM connector terminal B18 and input shaft (mainshaft) speed sensor connector terminal No. 1.

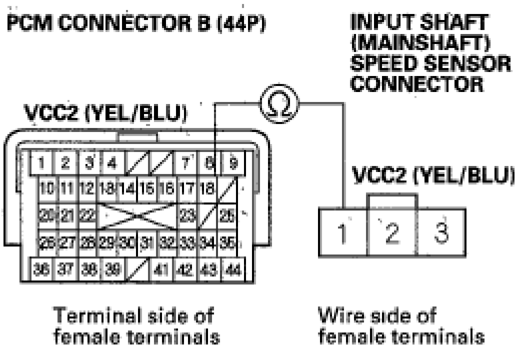

PCM CONNECTOR B (44P)
INPUT SHAFT (MAINSHAFT) SPEED SENSOR CONNECTOR
VCC2 (YEL/BLU)
VCC2 (YEL/BLU)
1
2
3
Terminal side of female terminals
Wire side of female terminals

**Fig. 104: Checking Continuity Between PCM Connector Terminal B18 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 32.

**NO -**Repair open in the wire between PCM connector terminal B18 and the input shaft (mainshaft) speed sensor, then go to step 32.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
36. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 35, then go to step 37.
37. Check for DTCs with the HDS.

    *Is DTC P0718 indicated?*

    **YES -**Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

    **NO -**Go to step 38.

38. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 37, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

39. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

40. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
41. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 40, then go to step 42.
42. Check for DTCs with the HDS.

    *Is DTC P0718 indicated?*

    **YES -**Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1.

    **NO -**Go to step 43.

43. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 42, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 40.

**DTC P0721: Problem in Output Shaft (Countershaft) Speed Sensor Circuit; DTC P0722: Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input)**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for proper output shaft (countershaft) speed sensor installation (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ).
4. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
5. Test-drive the vehicle with the shift lever in D and the engine speed 2,000 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
6. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 7.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector C (44P).
10. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

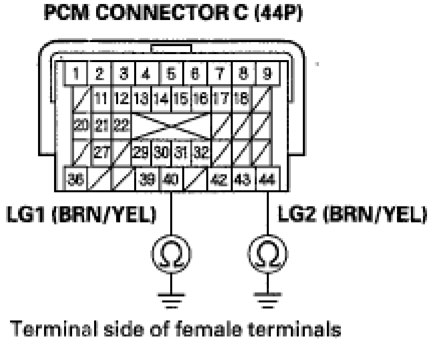

PCM CONNECTOR C (44P)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
17
18
20
21
22
27
29
30
31
32
36
39
40
42
43
44
LG1 (BRN/YEL)
LG2 (BRN/YEL)
Terminal side of female terminals

**Fig. 105: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 11.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair a poor ground (G101), then go to step 32.

11. Connect PCM connector C (44P).
12. Disconnect the output shaft (countershaft) speed sensor connector.
13. Turn the ignition switch to ON (II).
14. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 1 and body ground.

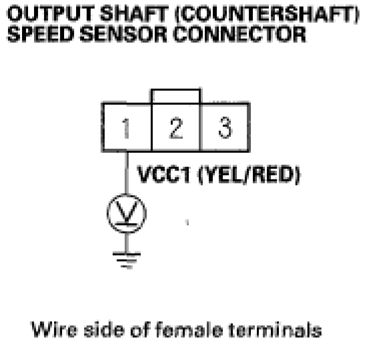

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
1
2
3
VCC1 (YEL/RED)
Wire side of female terminals

**Fig. 106: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 1 And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 18.

**NO -**Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Disconnect PCM connector C (44P).
17. Check for continuity between PCM connector terminal C13 and output shaft (countershaft) speed sensor connector terminal No. 1.

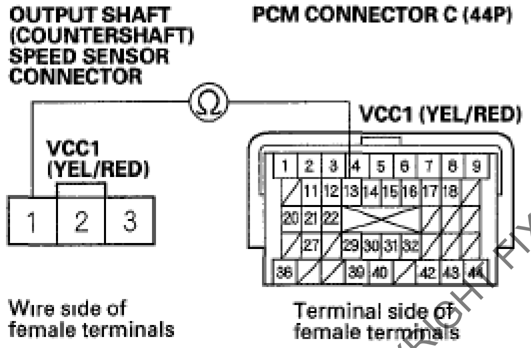

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
PCM CONNECTOR C (44P)
Ω
VCC1 (YEL/RED)
VCC1 (YEL/RED)
1
2
3
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18
20 21 22
27 29 30 31 32
36 39 40 42 43 44
Wire side of female terminals
Terminal side of female terminals

**Fig. 107: Checking Continuity Between PCM Connector Terminal C13 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 18.

**NO -**Repair open in the wire between PCM connector terminal C13 and the output shaft (countershaft) speed sensor, then go to step 32.

18. Turn the ignition switch to LOCK (0).
19. Disconnect PCM connector C (44P).
20. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

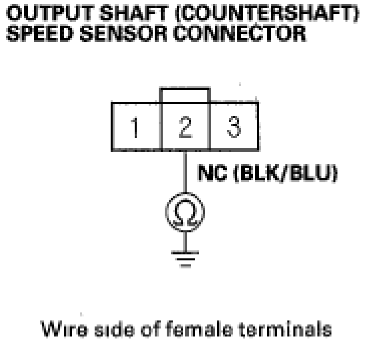

OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR
1
2
3
NC (BLK/BLU)
Ω
Wire side of female terminals

**Fig. 108: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

**NO -**Go to step 21.

21. Check for continuity between PCM connector terminal C14 and output shaft (countershaft) speed sensor connector terminal No. 3.

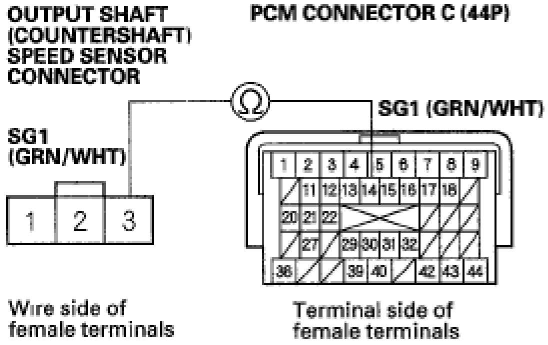

OUTPUT SHAFT
(COUNTERSHAFT)
SPEED SENSOR
CONNECTOR
PCM CONNECTOR C (44P)
Ω
SG1 (GRN/WHT)
SG1
(GRN/WHT)
1
2
3
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18
20 21 22
27 29 30 31 32
36 39 40 42 43 44
Wire side of
female terminals
Terminal side of
female terminals

**Fig. 109: Checking Continuity Between PCM Connector Terminal C14 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 22.

**NO -**Repair open in the wire between the output shaft (countershaft) speed sensor connector and PCM connector terminal C14, then go to step 32.

22. Connect PCM connector C (44P).
23. Turn the ignition switch to ON (II).
24. Measure the voltage between output shaft (countershaft) speed sensor connector terminals No. 2 and No. 3.

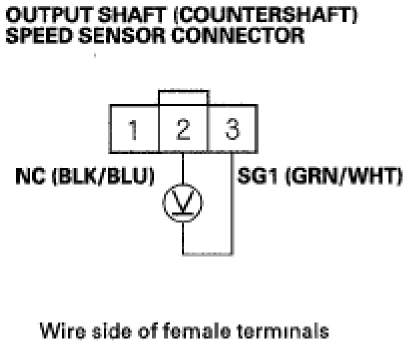

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
1
2
3
NC (BLK/BLU)
SG1 (GRN/WHT)
V
Wire side of female terminals

**Fig. 110: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminals 2 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 28.

**NO -**Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector C (44P).
27. Check for continuity between PCM connector terminal C43 and output shaft (countershaft) speed sensor connector terminal No. 2.

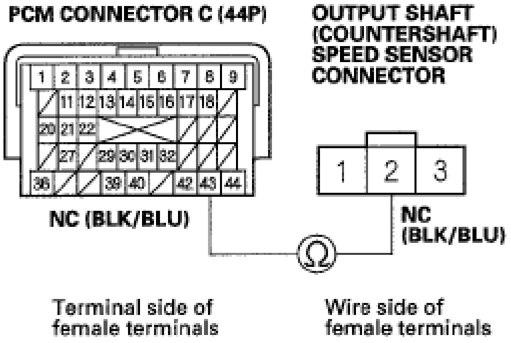

PCM CONNECTOR C (44P)
OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18
20 21 22
27 29 30 31 32
36 39 40 42 43 44
1 2 3
NC (BLK/BLU)
NC (BLK/BLU)
Ω
Terminal side of female terminals
Wire side of female terminals

**Fig. 111: Checking Continuity Between PCM Connector Terminal C43 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 38.

**NO -**Repair open in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

28. Connect the output shaft (countershaft) speed sensor connector.
29. Clear the DTC with the HDS.
30. Test-drive the vehicle with the shift lever in D and the engine speed 2,000 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
31. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES -**Replace the output shaft (countershaft) speed sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

    **NO -**Go to step 38.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).

34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D at speeds over 12 mph (20 km/h), for at least 10 seconds. Slow down and stop the wheels.
36. Check for DTCs with the HDS.

    *Is DTC P0721 or P0722 indicated?*

    **YES -**Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

    **NO -**Go to step 37.

37. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 36, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

38. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
39. Test-drive the vehicle with the shift lever in D at speeds over 12 mph (20 km/h), for at least 10 seconds. Slow down and stop the wheels.
40. Check for DTCs with the HDS.

    *Is DTC P0721 or P0722 indicated?*

    **YES -**Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1.

**NO -**Go to step 41.

41. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 39.

### DTC P0723: Output Shaft (Countershaft) Speed Sensor Intermittent Failure

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D with engine speed 2,000 rpm or higher, and let the transmission shift through all five gears.
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Go to step 6.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the output shaft (countershaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

   *Are the connector terminals OK?*

   **YES -**Go to step 8.

   **NO -**Repair the connector terminals, then go to step 8.

8. Connect the output shaft (countershaft) speed sensor connector.
9. Test-drive the vehicle with the shift lever in D with engine speed 2,000 rpm or higher, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES -**Go to step 12.

    **NO -**If the HDS indicates PASSED, troubleshooting is complete. If the HDS indicates NOT COMPLETED, go to step 9.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector C (44P).

15. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

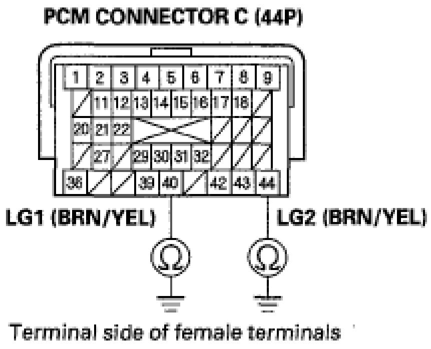

PCM CONNECTOR C (44P)
1
2
3
4
5
6
7
8
9
11
12
13
14
15
16
17
18
20
21
22
27
29
30
31
32
36
39
40
42
43
44
LG1 (BRN/YEL)
LG2 (BRN/YEL)
Ω
Ω
Terminal side of female terminals

**Fig. 112: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 16.

**NO -**Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

16. Connect PCM connector C (44P).
17. Disconnect the output shaft (countershaft) speed sensor connector.
18. Turn the ignition switch to ON (II).
19. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 1 and body ground.

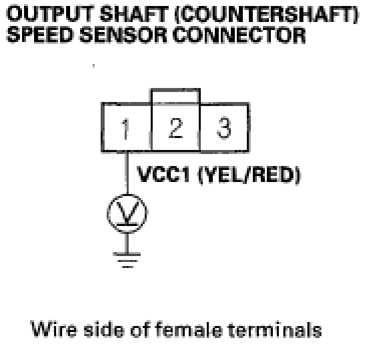

OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR
1
2
3
VCC1 (YEL/RED)
V
Wire side of female terminals

**Fig. 113: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 20.

**NO -**Go to step 29.

20. Turn the ignition switch to LOCK (0).
21. Disconnect PCM connector C (44P).
22. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

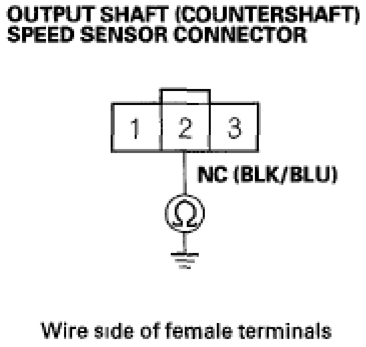

OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR
1
2
3
NC (BLK/BLU)
Ω
Wire side of female terminals

**Fig. 114: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

**NO -**Go to step 23.

23. Connect PCM connector C (44P).
24. Turn the ignition switch to ON (II).
25. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

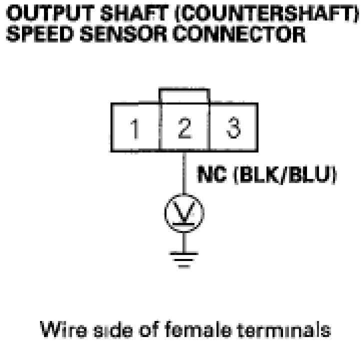

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
1
2
3
NC (BLK/BLU)
V
Wire side of female terminals

**Fig. 115: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Replace the output shaft (countershaft) speed sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

**NO -**Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Disconnect PCM connector C (44P).
28. Check for continuity between PCM connector terminal C43 and output shaft (countershaft) speed sensor connector terminal No. 2.

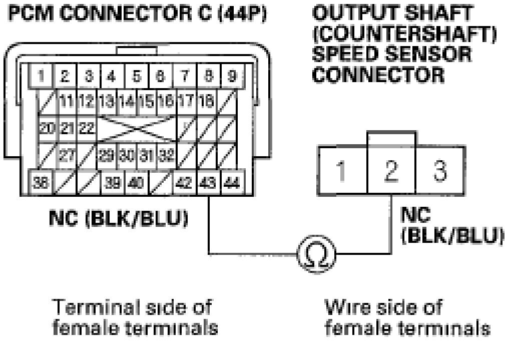

PCM CONNECTOR C (44P)
OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
NC (BLK/BLU)
NC (BLK/BLU)
Terminal side of female terminals
Wire side of female terminals

**Fig. 116: Checking Continuity Between PCM Connector Terminal C43 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 39.

**NO -**Repair open in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

29. Turn the ignition switch to LOCK (0).
30. Disconnect PCM connector C (44P).
31. Check for continuity between PCM connector terminal C13 and output shaft (countershaft) speed sensor connector terminal No. 1.

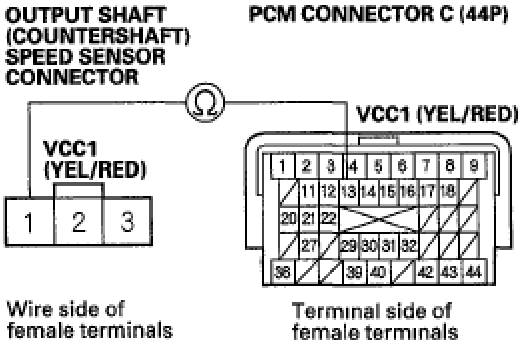

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CONNECTOR
PCM CONNECTOR C (44P)
VCC1 (YEL/RED)
VCC1 (YEL/RED)
Wire side of female terminals
Terminal side of female terminals

**Fig. 117: Checking Continuity Between PCM Connector Terminal C13 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 32.

**NO -**Repair open in the wire between PCM connector terminal C13 and the output shaft (countershaft) speed sensor, then go to step 32.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
36. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 35, then go to step 37.
37. Check for DTCs with the HDS.

*Is DTC P0723 indicated?*

**YES -**Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

**NO -**Go to step 38.

38. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 37, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

39. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

40. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
41. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 40, then go to step 42.
42. Check for DTCs with the HDS.

    *Is DTC P0723 indicated?*

    **YES** -Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1.

    **NO** -Go to step 43.

43. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 42, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 40.

**DTC P0731: Problem in 1st Clutch and 1st Clutch Hydraulic Circuit (1st gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 13.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limit?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 13.

5. Measure the 1st clutch pressure (see **PRESSURE TEST** ).

   *Is the 1st clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves B and C are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 13.

6. Test stall speed with the shift lever in 1 (see **STALL SPEED TEST** ).

   *Is the stall speed within service limits?*

   **YES** -Go to step 7.

   **NO** -Shift valves A and D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 13.

7. Turn the ignition switch to ON (II).
8. Clear the DTC with the HDS.
9. Test-drive the vehicle in 1st gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P0731 indicated?*

    **YES -**Repair the 1st clutch, or replace the transmission, then go to step 13.

    **NO -**Go to step 12.

12. Monitor the OBD STATUS for P0731 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, repair the 1st clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 9.

13. Test-drive the vehicle in 1st gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
14. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 13, then go to step 15.
15. Check for DTCs with the HDS.

    *Is DTC P0731 indicated?*

    **YES -**Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

**NO** -Go to step 16.

16. Monitor the OBD STATUS for P0731 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 13.

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**DTC P0732: Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit (2nd gear incorrect ratio)**

**NOTE:** **Before you troubleshoot, record all freeze data and Any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 13.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limit?*

**YES -**Go to step 5.

**NO -**Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 13.

5. Measure the 2nd clutch pressure (see **PRESSURE TEST** ).

*Is the 2nd clutch pressure within service limits?*

**YES -**Go to step 6.

**NO -**Shift valves A and 6 are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 13.

6. Test stall speed with the shift lever in 2 (see **STALL SPEED TEST** ).

*Is the stall speed within service limits?*

**YES -**Go to step 7.

**NO -**Shift valve C is stuck. Repair the shift valve C and the hydraulic circuit, or replace the transmission, then go to step 13.

7. Turn the ignition switch to ON (II).
8. Clear the DTC with the HDS.
9. Test-drive the vehicle in 2nd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

*Is DTC P0732 indicated?*

**YES -**Repair the 2nd clutch, or replace the transmission, then go to step 13.

**NO -**Go to step 12.

12. Monitor the OBD STATUS for P0732 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, repair the 2nd clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 9.

13. Test-drive the vehicle in 2nd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
14. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 13, then go to step 15.
15. Check for DTCs with the HDS.

    *Is DTC P0732 indicated?*

    **YES -**Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO -**Go to step 16.

16. Monitor the OBD STATUS for P0732 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 13.

### DTC P0733: Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit (3rd gear incorrect ratio)

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

## Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES -**Go to step 5.

   **NO -**Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 3rd clutch pressure (see **PRESSURE TEST** ).

   *Is the 3rd clutch pressure within service limits?*

   **YES -**Go to step 6.

   **NO -**Shift valves A and D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 3rd gear with the shift lever in D at speeds over 7 mph

(12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.

9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0733 indicated?*

    **YES** -Repair the 3rd clutch, or replace the transmission, then go to step 12.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0733 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, repair the 3rd clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 3rd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0733 indicated?*

    **YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0733 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0734: Problem in 4th Clutch and 4th Clutch Hydraulic Circuit (4th gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES -**Go to step 5.

   **NO -**Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 4th clutch pressure (see **PRESSURE TEST** ).

   *Is the 4th clutch pressure within service limits?*

   **YES -**Go to step 6.

   **NO -**Shift valves A, B, C, and/or D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 4th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0734 indicated?*

    **YES -**Repair the 4th clutch, or replace the transmission, then go to step 12.

    **NO -**Go to step 11.

11. Monitor the OBD STATUS for P0734 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, repair the 4th clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 4th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.

14. Check for DTCs with the HDS.

    *Is DTC P0734 indicated?*

    **YES -**Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO -**Go to step 15.

15. Monitor the OBD STATUS for P0734 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0735: Problem in 5th Clutch and 5th Clutch Hydraulic Circuit (5th gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

    *Does the strainer have metal debris or excessive clutch material?*

**YES** -Replace the transmission, then go to step 12.

**NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 5th clutch pressure (see **PRESSURE TEST** ).

   *Is the 5th clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves A, B, C, and/or D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 5th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0735 indicated?*

    **YES** -Repair the 5th clutch, or replace the transmission, then go to step 12.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0735 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, repair the 5th clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 5th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0735 indicated?*

    **YES -**Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO -**Go to step 15.

15. Monitor the OBD STATUS for P0735 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0741: Torque Converter Clutch Hydraulic Circuit Stuck OFF**

**NOTE:** **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

## Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 15.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check that shift solenoid valve D operates with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 7.

   **NO -**Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 12.

7. Run the engine until the ECT SENSOR temperature reaches 176 °F (80 °C).
8. Select Clutch Pressure Control (Linear) Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

**YES -**Go to step 9.

**NO -**Follow the instructions indicated on the HDS by the test result. Go to step 12 if any part is replaced.

9. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 20 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0741 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Repair the faulty torque converter clutch mechanism, the torque converter clutch hydraulic circuit, the lock-up shift valve, or the lock-up control valve, or replace the transmission, then go to step 15.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 9.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 20 seconds, or test-drive the vehicle for several minutes under the same condition as those indicated by the freeze data.
16. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 15, then go to step 17.
17. Check for DTCs with the HDS.

*Is DTC P0741 indicated?*

**YES -**Go to step 5.

**NO -**Go to step 18.

18. Monitor the OBD STATUS for P0741 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 17, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 15.

**DTC P0746: A/T Clutch Pressure Control Solenoid Valve A Stuck OFF**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

    *Does the strainer have metal debris or excessive clutch material?*

    **YES** -Replace the transmission, then go to step 14.

    **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 2 seconds.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go

to step 8.

8. Monitor the OBD STATUS for P0746 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 9.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES -**Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve A with the HDS.

    **NO -**Follow the instructions indicated on the HDS by the test result. If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST** ).

    *Does A/T clutch pressure control solenoid valve A operate properly?*

    **YES -**Repair the hydraulic system related with shift valve A, or replace the transmission, then go to step 14.

    **NO -**Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 2 seconds.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0746 indicated?*

    **YES** -Go to step 9.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0746 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

### DTC P0747: A/T Clutch Pressure Control Solenoid Valve A Stuck ON

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal

debris or excessive clutch material.

*Does the strainer have metal debris or excessive clutch material?*

**YES -**Replace the transmission, then go to step 14.

**NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0747 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 9.

   **NO -**lf the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES -**Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve A with the HDS.

    **NO -**Follow the instructions indicated on the HDS by the test result. If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST** ).

    *Does A/T clutch pressure control solenoid valve A operate properly?*

    **YES -**Repair the hydraulic system related with shift valve A, or replace the transmission, then go to step 14.

    **NO -**Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0747 indicated?*

    **YES -**Go to step 9.

    **NO -**Go to step 17.

17. Monitor the OBD STATUS for P0747 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0751: Shift Solenoid Valve A Stuck OFF; DTC P0752: Shift Solenoid Valve A Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 7.

   **NO -**Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0751 or P0752 in the DTCs MENU with the

HDS.

*Does the HDS indicate FAILED?*

**YES -**Repair shift valve A, or replace the transmission, then go to step 12.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

*Is DTC P0751 or P0752 indicated?*

**YES -**Go to step 5.

**NO -**Go to step 15.

15. Monitor the OBD STATUS for P0751 or P0752 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0756: Shift Solenoid Valve B Stuck OFF; DTC P0757: Shift Solenoid Valve B Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-**

**board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 7.

   **NO -**Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0756 or P0757 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES -**Repair shift valve B, or replace the transmission, then go to step 12.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

*Is DTC P0756 or P0757 indicated?*

**YES -**Go to step 5.

**NO -**Go to step 15.

15. Monitor the OBD STATUS for P0756 or P0757 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0761: Shift Solenoid Valve C Stuck OFF; DTC P0762: Shift Solenoid Valve C Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL**

## TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 7.

   **NO -**Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0761 or P0762 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

**YES -**Repair shift valve C, or replace the transmission, then go to step 12.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

*Is DTC P0761 or P0762 indicated?*

**YES -**Go to step 5.

**NO -**Go to step 15.

15. Monitor the OBD STATUS for P0761 or P0762 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0766: Shift Solenoid Valve D Stuck OFF**

**NOTE:** **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Start the engine, and shift to N. Then shift to R and drive the vehicle for at least 2 seconds. Slow the vehicle down to a stop. Then drive the vehicle in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0766 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Repair shift valve D, or replace the transmission, then go to step 12.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Start the engine, and shift to N. Then shift to R and drive the vehicle for at least 2 seconds. Slow the vehicle down to a stop. Then drive the vehicle in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0766 indicated?*

    **YES** -Go to step 5.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0766 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0767: Shift Solenoid Valve D Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).

2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 12.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 7.

   **NO -**Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 3 seconds.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0767 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Repair shift valve D, or replace the transmission, then go to step 12.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 3 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0767 indicated?*

    **YES -**Go to step 5.

    **NO -**Go to step 15.

15. Monitor the OBD STATUS for P0767 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0776: A/T Clutch Pressure Control Solenoid Valve B Stuck OFF; DTC P0777: A/T Clutch Pressure Control Solenoid Valve B Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.

3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 14.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0776 or P0777 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 9.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES -**Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve B with the HDS.

    **NO -**Follow the instructions indicated on the HDS by the test result. If the

HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST** ).

    *Does A/T clutch pressure control solenoid valve B work properly?*

    **YES -**Repair the hydraulic system related with shift valve B, or replace the transmission, then go to step 14.

    **NO -**Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0776 or P0777 indicated?*

    **YES -**Go to step 9.

    **NO -**Go to step 17.

17. Monitor the OBD STATUS for P0776 or P0777 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0796: A/T Clutch Pressure Control Solenoid Valve C Stuck OFF; DTC P0797: A/T Clutch Pressure Control Solenoid Valve C Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 14.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0796 or P0797 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 9.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES -**Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve C with the HDS.

    **NO -**Follow the instructions indicated on the HDS by the test result, If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST** ).

    *Does A/T clutch pressure control solenoid valve C work properly?*

    **YES -**Repair the hydraulic system related with shift valve C, or replace the transmission, then go to step 14.

    **NO -**Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.

16. Check for DTCs with the HDS.

    *Is DTC P0796 or P0797 indicated?*

    **YES -**Go to step 9.

    **NO -**Go to step 17.

17. Monitor the OBD STATUS for P0796 or P0797 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0812: Open in Transmission Range Switch ATP R Switch Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Shift to R, and check the A/T R SWITCH in the DATA LIST with the HDS.

    *Is the A/T R SWITCH ON?*

    **YES -**Intermittent failure, the system is OK at this time.

    **NO -**Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission range switch connector.
5. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

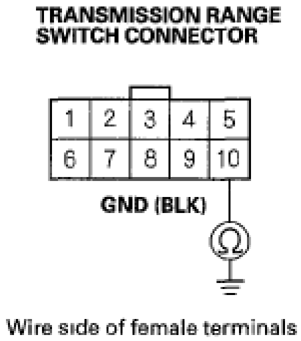

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
GND (BLK)
Wire side of female terminals

**Fig. 118: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 9.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between transmission range switch connector terminals No. 7 and No. 10.

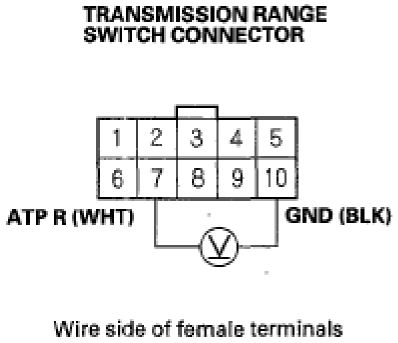

TRANSMISSION RANGE
SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP R (WHT)
GND (BLK)
V
Wire side of female terminals

**Fig. 119: Measuring Voltage Between Transmission Range Switch Connector Terminals 7 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 8.

**NO -**Repair open in the wire between PCM connector terminal B14 and the transmission range switch, then go to step 9.

8. Check for continuity between transmission range switch connector terminals No. 7 and No. 10 while the shift lever is in R, and when the shift lever is shifted to any position other than R.

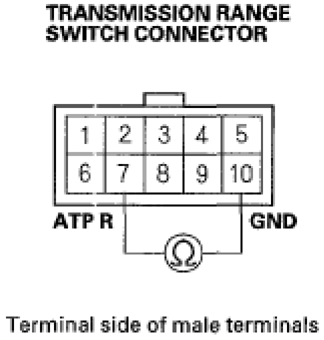

TRANSMISSION RANGE
SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP R
GND
Ω
Terminal side of male terminals

**Fig. 120: Checking Continuity Between Transmission Range Switch Connector Terminals 7 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity while the shift lever is in R, and no continuity when the shift lever is shifted to any position other than R?*

**YES** -Go to step 16.

**NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 9.

9. Reconnect all connectors.
10. Turn the ignition switch to ON (II).
11. Clear the DTC with to the HDS.
12. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive over 3 mph (5 km/h) for at least 2 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0812 indicated?*

    **YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0812 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 12.

16. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

17. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive over 3 mph (5 km/h) for at least 2 seconds.
18. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 17, then go to step 19.
19. Check for DTCs with the HDS.

    *Is DTC P0812 indicated?*

    **YES -**Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1.

    **NO -**Go to step 20.

20. Monitor the OBD STATUS for P0812 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 17.

**DTC P0842: Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL**

**TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS when not in 2nd gear.

   *Is the 2nd PRESSURE SWITCH OFF?*

   **YES -**Go to step 4.

   **NO -**Go to step 7.

4. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
5. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 2 seconds.
6. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 7.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 2nd clutch transmission fluid pressure switch connector.
9. Turn the ignition switch to ON (II).
10. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS.

*Is the 2nd PRESSURE SWITCH OFF?*

**YES -**Replace the 2nd clutch transmission fluid pressure switch (see **2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 15.

**NO -**Go to step 11.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between PCM connector terminal B8 and body ground.

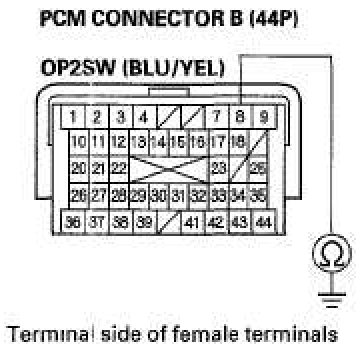

PCM CONNECTOR B (44P)
OP2SW (BLU/YEL)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
Ω
Terminal side of female terminals

**Fig. 121: Checking Continuity Between PCM Connector Terminal B8 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch, then go to step 15.

**NO -**Go to step 22.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.

18. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
19. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 3rd gear for at least 2 seconds. Then drive in 4th gear for at least 2 seconds.
20. Check for DTCs with the HDS.

    *Is DTC P0842 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

    **NO -**Go to step 21.

21. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
24. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 3rd gear for at least 2 seconds. Then drive in 4th gear for at least 2 seconds.
25. Check for DTCs with the HDS.

*Is DTC P0842 indicated?*

**YES -**Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

**NO -**Go to step 26.

26. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0843: Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).

2. Clear the DTC with the HDS.
3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Shift the shift lever into 2.
5. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS.

   *Is the 2nd PRESSURE SWITCH ON?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds.
7. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 6.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the 2nd clutch transmission fluid pressure switch connector.
10. Turn the ignition switch to ON (II).
11. Measure the voltage between the 2nd clutch transmission fluid pressure switch connector terminal and body ground.

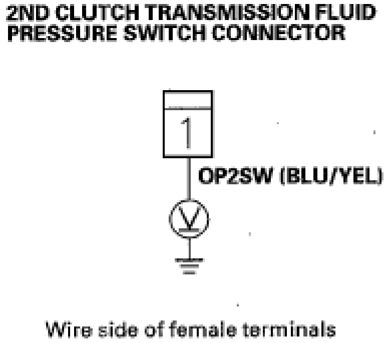

2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH CONNECTOR
1
OP2SW (BLU/YEL)
Wire side of female terminals

**Fig. 122: Measuring Voltage Between 2nd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Replace the 2nd clutch transmission fluid pressure switch (see **2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 16.

**NO -**Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Check for continuity between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch connector terminal.

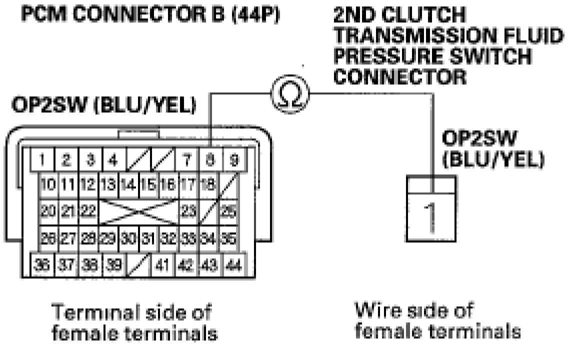

PCM CONNECTOR B (44P)
2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH CONNECTOR
OP2SW (BLU/YEL)
Ω
OP2SW (BLU/YEL)
1
Terminal side of female terminals
Wire side of female terminals

**Fig. 123: Checking Continuity Between PCM Terminal B8 And 2nd Clutch Transmission Fluid Pressure Switch Terminal**

*Is there continuity?*

**YES -**Go to step 23.

**NO -**Repair open in the wire between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
20. Drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 4th gear for at least 2 seconds.
21. Check for DTCs with the HDS.

*Is DTC P0843 indicated?*

**YES -**Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

**NO -**Go to step 22.

22. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

23. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
24. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
25. Drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 4th gear for at least 2 seconds.
26. Check for DTCs with the HDS.

    *Is DTC P0843 indicated?*

    **YES -**Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1.

    **NO -**Go to step 27.

27. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 26, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

**DTC P0847: Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS when not in 3rd gear.

   *Is the 3rd PRESSURE SWITCH OFF?*

   **YES -**Go to step 4.

   **NO -**Go to step 7.

4. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
5. Drive the vehicle in 4th gear with the shift lever in D, for at least 2 seconds.
6. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 7.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 3rd clutch transmission fluid pressure switch connector.

9. Turn the ignition switch to ON (II).
10. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS.

    *Is the 3rd PRESSURE SWITCH OFF?*

    **YES -**Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 15.

    **NO -**Go to step 11.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between PCM connector terminal B9 and body ground.

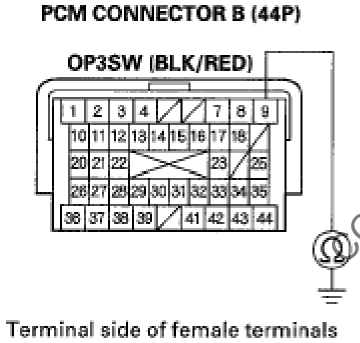

PCM CONNECTOR B (44P)
OP3SW (BLK/RED)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
Ω
Terminal side of female terminals

**Fig. 124: Checking Continuity Between PCM Connector Terminal B9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B9 and the 3rd clutch transmission fluid pressure switch, then go to step 15.

**NO -**Go to step 22.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
19. Drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
20. Check for DTCs with the HDS.

    *Is DTC P0847 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

    **NO -**Go to step 21.

21. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
24. Drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.

25. Check for DTCs with the HDS.

    *Is DTC P0847 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 26.

26. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0848: Open in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Drive the vehicle in 3rd gear with the shift lever in D3, and check that the SHIFT COMMAND indicates 3rd in the DATA LIST with the HDS.
5. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS.

   *Is the 3rd PRESSURE SWITCH ON?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds.
7. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 6.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the 3rd clutch transmission fluid pressure switch connector.
10. Turn the ignition switch to ON (II).
11. Measure the voltage between the 3rd clutch transmission fluid pressure switch connector terminal and body ground.

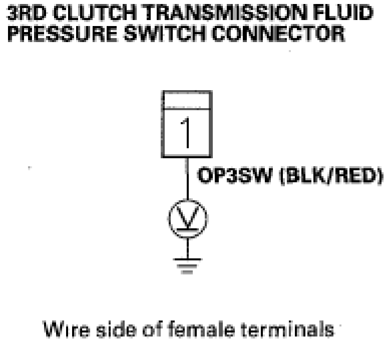

3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH CONNECTOR
1
OP3SW (BLK/RED)
V
Wire side of female terminals

**Fig. 125: Checking Voltage Between 3rd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 16.

**NO -**Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Check for continuity between PCM connector terminal B9 and 3rd clutch transmission fluid pressure switch connector terminal.

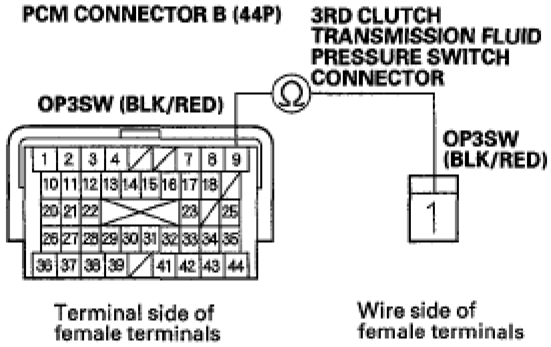

PCM CONNECTOR B (44P)
3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH CONNECTOR
OP3SW (BLK/RED)
Ω
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
OP3SW (BLK/RED)
1
Terminal side of female terminals
Wire side of female terminals

**Fig. 126: Checking Continuity Between PCM Terminal B9 And 3rd Clutch Transmission Fluid Pressure Switch Terminal**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 23.

**NO -**Repair open in the wire between PCM connector terminal B9 and the 3rd clutch transmission fluid pressure switch, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
20. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
21. Check for DTCs with the HDS.

*Is DTC P0848 indicated?*

**YES -**Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

**NO -**Go to step 22.

22. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

23. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
24. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
25. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
26. Check for DTCs with the HDS.

    *Is DTC P0848 indicated?*

    **YES -**Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1.

    **NO -**Go to step 27.

27. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 26, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

**DTC P0962: Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0962 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve A at 1.0 A.
7. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve A connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

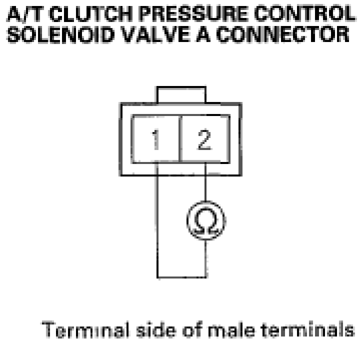

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 127: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES -**Go to step 11.

**NO -**Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

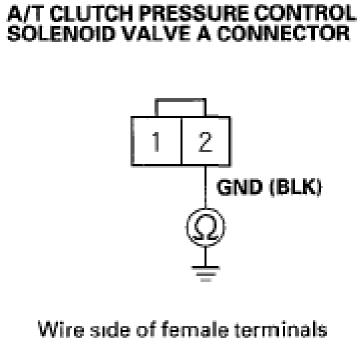

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 128: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 12.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 1 and body ground.

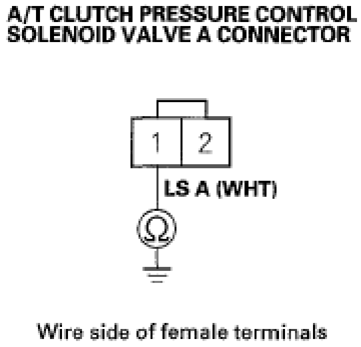

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1
2
LS A (WHT)
Ω
Wire side of female terminals

**Fig. 129: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between A/T clutch pressure control solenoid valve A connector terminal No. 1 and body ground, then go to step 16.

**NO -**Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 1 and PCM connector terminals B35.

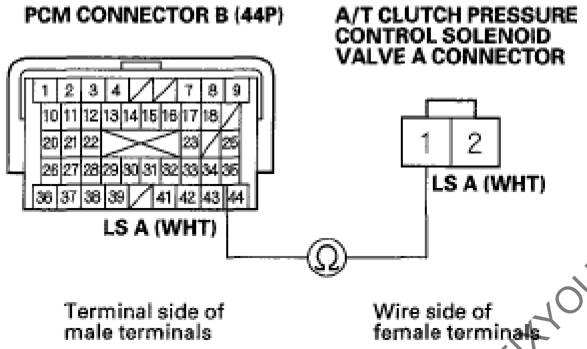

PCM CONNECTOR B (44P)
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
1 2
LS A (WHT)
LS A (WHT)
Ω
Terminal side of male terminals
Wire side of female terminals

**Fig. 130: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Terminal 1 And PCM Terminals B35**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 22.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve A connector terminal No. 1 and PCM connector terminal B35, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0962 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0962 indicated?*

    **YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 25.

25. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0963: Problem in A/T Clutch Pressure Control Solenoid Valve A**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0963 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

**YES** -Go to step 6.

**NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve A at 0.2 A.
7. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Go to step 8.

    **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve A connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

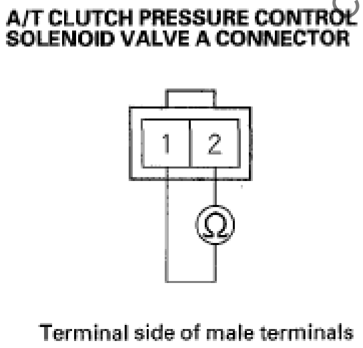

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 131: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve A Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

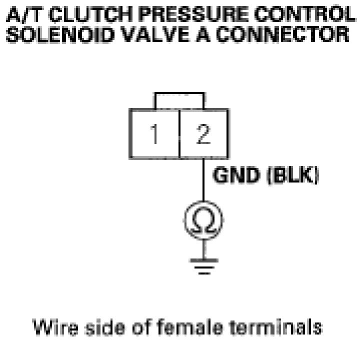

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 132: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

*Is DTC P0963 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1.

**NO -**Go to step 17.

17. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0963 indicated?*

    **YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

    **NO -**Go to step 21.

21. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

### DTC P0966: Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0966 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve B at 1.0 A.
7. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch OFF.
9. Disconnect the A/T clutch pressure control solenoid valve B connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

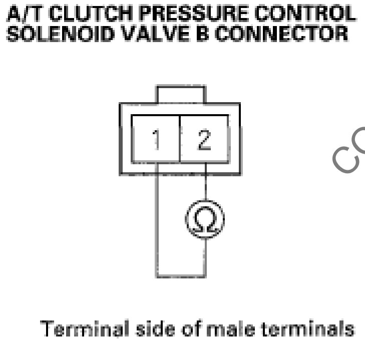

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 133: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve B Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES -**Go to step 11.

**NO -**Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C**

**REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

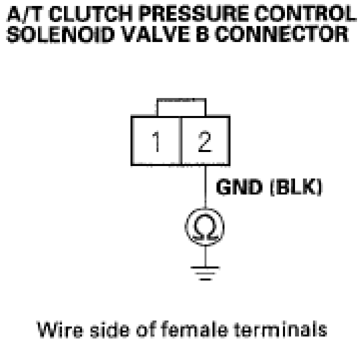

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 134: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 12.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 1 and body ground.

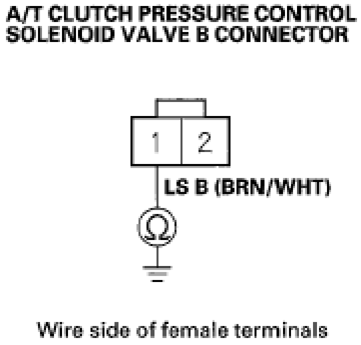

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
LS B (BRN/WHT)
Wire side of female terminals

**Fig. 135: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between A/T clutch pressure control solenoid valve B connector terminal No. 1 and body ground, then go to step 16.

**NO -**Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 1 and PCM connector terminals B44.

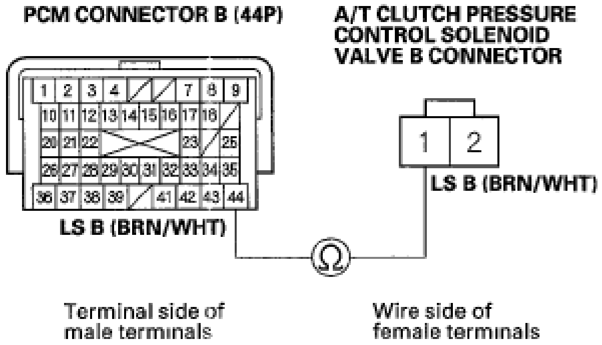

PCM CONNECTOR B (44P)
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
LS B (BRN/WHT)
LS B (BRN/WHT)
Terminal side of male terminals
Wire side of female terminals

**Fig. 136: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 1 And PCM Terminals B44**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 22.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve B connector terminal No. 1 and PCM connector terminal B44, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0966 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve Band the PCM, then go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

*Is DTC P0966 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

**NO** -Go to step 25.

25. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0967: Problem in A/T Clutch Pressure Control Solenoid Valve B**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.

4. Check for DTCs with the HDS.

   *Is DTC P0967 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve B at 0.2 A.
7. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve B connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

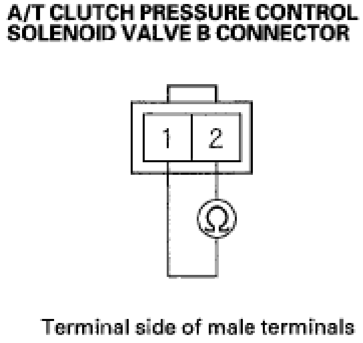

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 137: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve B Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES -**Go to step 11.

**NO -**Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

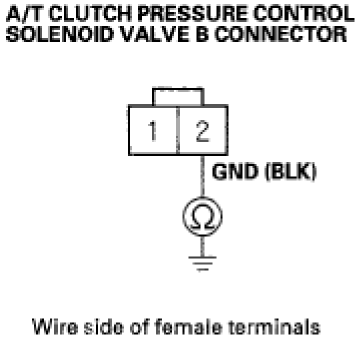

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 138: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 18.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

*Is DTC P0967 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1.

**NO -**Go to step 17.

17. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0967 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

### DTC P0970: Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.

4. Check for DTCs with the HDS.

   *Is DTC P0970 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve C at 1.0 A.
7. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch OFF.
9. Disconnect the A/T clutch pressure control solenoid valve C connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

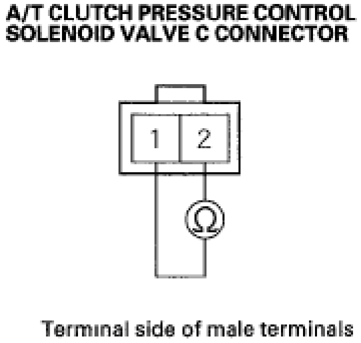

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 139: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve C Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

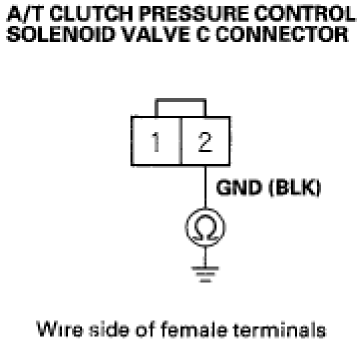

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 140: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 12.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 1 and body ground.

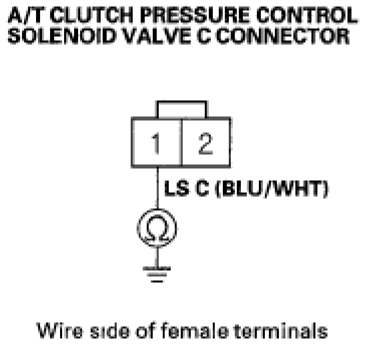

A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR
1
2
LS C (BLU/WHT)
Ω
Wire side of female terminals

**Fig. 141: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between A/T clutch pressure control solenoid valve C connector terminal No. 1 and body ground, then go to step 16.

**NO -**Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 1 and PCM connector terminal B25.

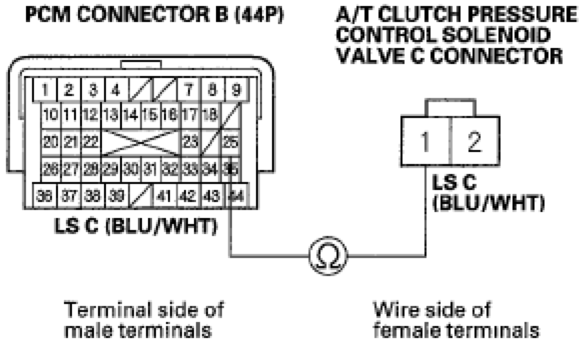

PCM CONNECTOR B (44P)
A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C CONNECTOR
1
2
LS C (BLU/WHT)
LS C (BLU/WHT)
Terminal side of male terminals
Wire side of female terminals

**Fig. 142: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 1 And PCM Connector Terminal B25**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 22.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve C connector terminal No. 1 and PCM connector terminal B25, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0970 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

*Is DTC P0970 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

**NO -**Go to step 25.

25. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0971: Problem in A/T Clutch Pressure Control Solenoid Valve C**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0971 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve C at 0.2 A.
7. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve C connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

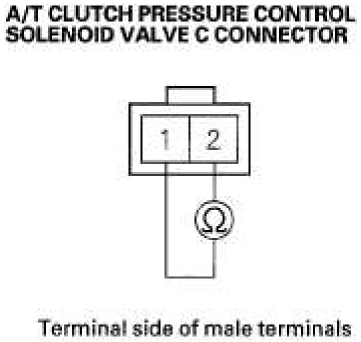

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C CONNECTOR
1
2
Ω
Terminal side of male terminals

**Fig. 143: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve C Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES -**Go to step 11.

**NO -**Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

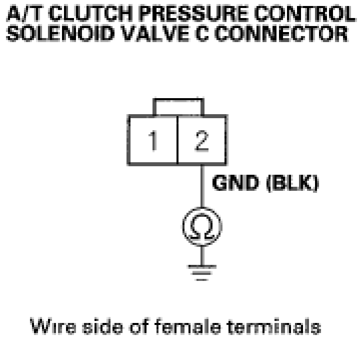

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C CONNECTOR
1
2
GND (BLK)
Ω
Wire side of female terminals

**Fig. 144: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 18.

**NO -**Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

    *Is DTC P0971 indicated?*

    **YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

    **NO -**Go to step 17.

17. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0971 indicated?*

**YES -**Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

### DTC P0973: Short in Shift Solenoid Valve A Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 2nd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0973 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Test-drive the vehicle in 2nd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

**YES -**Go to step 8.

**NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B10 and C40.

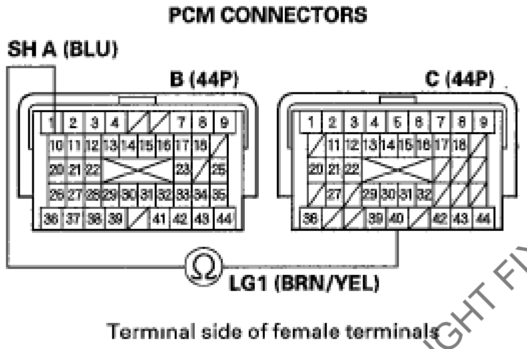


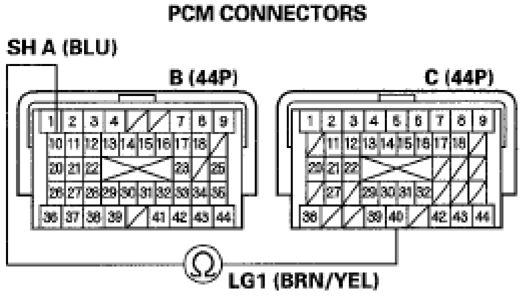
**Fig. 145: Measuring Resistance Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES -**Go to step 12.

**NO -**Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B10 and C40.



Terminal side of female terminals

**Fig. 146: Checking Continuity Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B10 and the shift solenoid harness connector, then go to step 15.

**NO** -Go to step 14.

14. Inspect shift solenoid valve A and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve A and the harness OK?*

    **YES** -Go to step 21.

    **NO** -Replace shift solenoid valve A or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
19. Check for DTCs with the HDS:

*Is DTC P0973 indicated?*

**YES -**Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM, then go to step 1.

**NO -**Go to step 20.

20. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
23. Check for DTCs with the HDS.

*Is DTC P0973 indicated?*

**YES -**Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

**NO -**Go to step 24.

24. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

**DTC P0974: Open in Shift Solenoid Valve A Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0974 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

   *Is a clicking sound heard?*

**YES** -Go to step 6.

**NO** -Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B10 and C40.

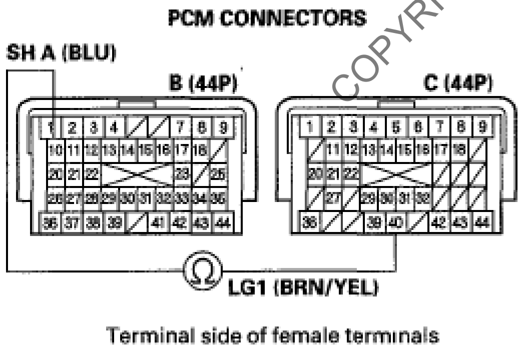


**Fig. 147: Measuring Resistance Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B10 and shift solenoid harness connector terminal No. 5.

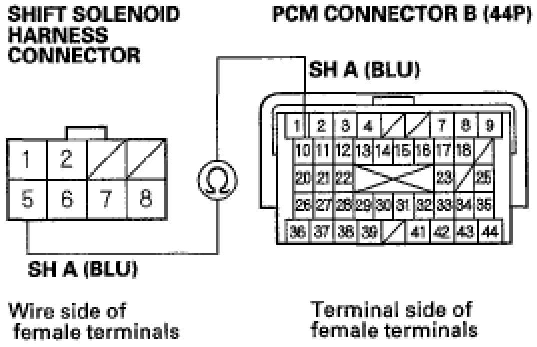

SHIFT SOLENOID HARNESS CONNECTOR
PCM CONNECTOR B (44P)
SH A (BLU)
1 2
5 6 7 8
Ω
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
SH A (BLU)
Wire side of female terminals
Terminal side of female terminals

**Fig. 148: Checking Continuity Between PCM Connector Terminal B10 And Shift Solenoid Harness Connector Terminal 5**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 14.

**NO -**Repair open in the wire between PCM connector terminal B10 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 5 and the shift solenoid valve A connector terminal.

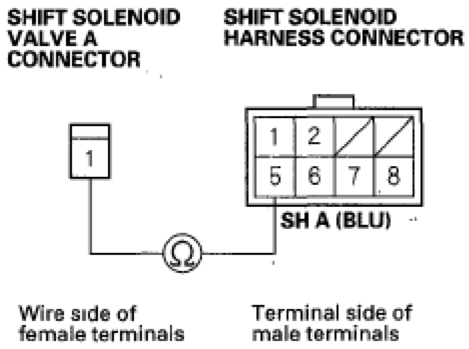

SHIFT SOLENOID VALVE A CONNECTOR
SHIFT SOLENOID HARNESS CONNECTOR
1
1 2
5 6 7 8
SH A (BLU)
Ω
Wire side of female terminals
Terminal side of male terminals

**Fig. 149: Checking Continuity Between Shift Solenoid Harness Terminal 5 And Shift Solenoid Valve A Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO -**Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0974 indicated?*

**YES -**Check for poor connections or loose terminals between shift solenoid valve A and the PCM, then go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve A and the PCM, then go to step 1. If the

HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0974 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 25.

25. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0976: Short in Shift Solenoid Valve B Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0976 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B26 and C40.

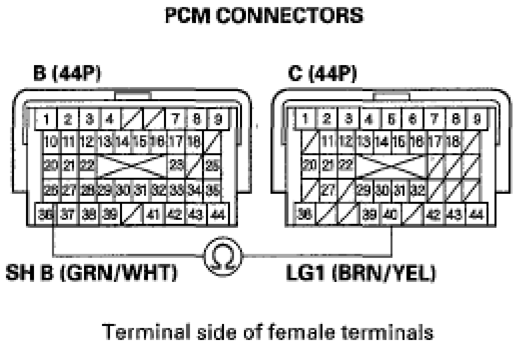

PCM CONNECTORS
B (44P)
C (44P)
SH B (GRN/WHT)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 150: Measuring Resistance Between PCM Connector Terminals B26 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES** -Go to step 12.

**NO** -Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B26 and C40.

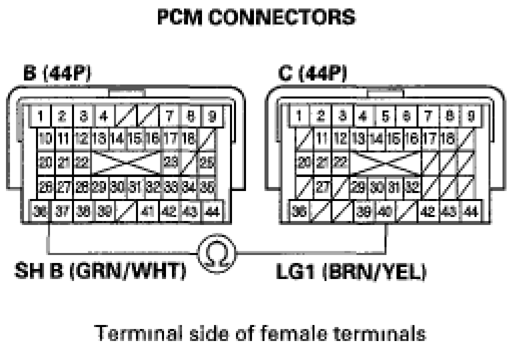

PCM CONNECTORS
B (44P)
C (44P)
SH B (GRN/WHT)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 151: Checking Continuity Between PCM Connector Terminals B26 And C40**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B26 and the shift solenoid harness connector, then go to step 15.

**NO** -Go to step 14.

14. Inspect shift solenoid valve B and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve B and the harness OK?*

    **YES** -Go to step 21.

    **NO** -Replace shift solenoid valve B or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0976 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM, then go to step 1.

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES -**Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
23. Check for DTCs with the HDS.

*Is DTC P0976 indicated?*

**YES -**Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

**NO -**Go to step 24.

24. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

### DTC P0977: Open in Shift Solenoid Valve B Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0977 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B26 and C40.

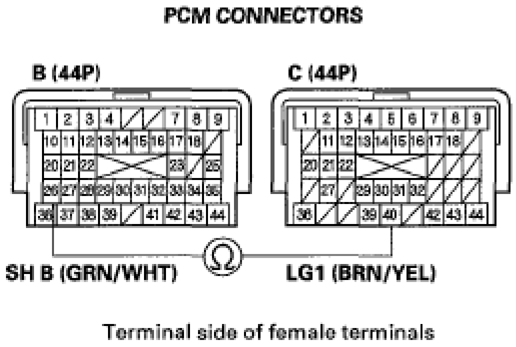


**Fig. 152: Measuring Resistance Between PCM Connector Terminals B26 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B26 and shift solenoid harness connector terminal No. 2.

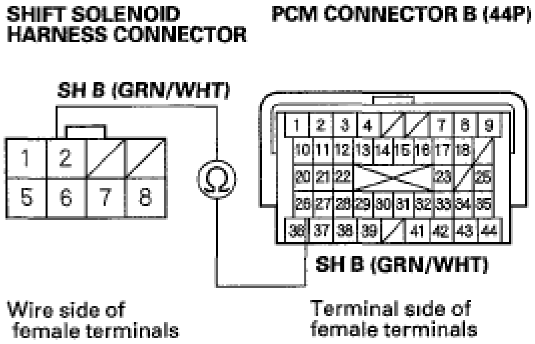

SHIFT SOLENOID HARNESS CONNECTOR
PCM CONNECTOR B (44P)
SH B (GRN/WHT)
1 2
5 6 7 8
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
SH B (GRN/WHT)
Wire side of female terminals
Terminal side of female terminals

**Fig. 153: Checking Continuity Between PCM Terminal B26 And Shift Solenoid Harness Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 14.

**NO -**Repair open in the wire between PCM connector terminal B26 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 2 and the shift solenoid valve B connector terminal.

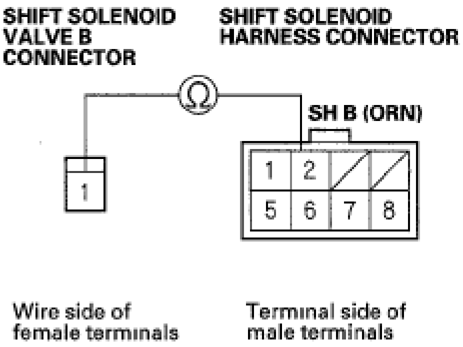

SHIFT SOLENOID VALVE B CONNECTOR
SHIFT SOLENOID HARNESS CONNECTOR
SH B (ORN)
1
1 2
5 6 7 8
Wire side of female terminals
Terminal side of male terminals

**Fig. 154: Checking Continuity Between Shift Solenoid Harness Terminal 2 And Shift Solenoid Valve B Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO -**Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0977 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve B and the PCM, then go to step 1.

    **NO -**Go to step 21.

21. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.

Then drive in 3rd gear for at least 1 second.

24. Check for DTCs with the HDS.

    *Is DTC P0977 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 25.

25. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0979: Short in Shift Solenoid Valve C Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0979 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B20 and C40.

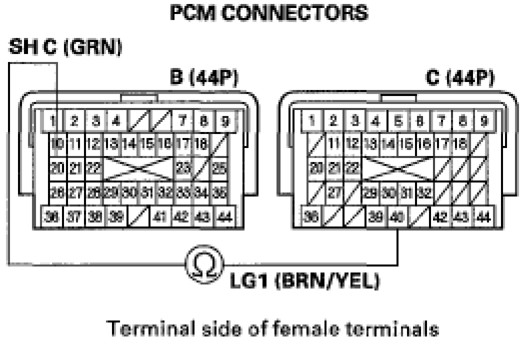

PCM CONNECTORS
SH C (GRN)
B (44P)
C (44P)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 155: Measuring Resistance Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES -**Go to step 12.

**NO -**Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B20 and C40.

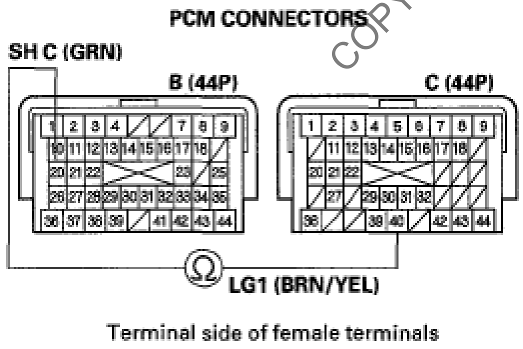

PCM CONNECTORS
SH C (GRN)
B (44P)
C (44P)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 156: Checking Continuity Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B20 and the shift solenoid harness connector, then go to step 15.

**NO -**Go to step 14.

14. Inspect shift solenoid valve C and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve C and the harness OK?*

    **YES -**Go to step 21.

    **NO -**Replace shift solenoid valve C or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 3rd gear in D, for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0979 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM, then go to step 1.

    **NO -**Go to step 20.

20. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 3rd gear in D, for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0979 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

    **NO -**Go to step 24.

24. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

**DTC P0980: Open in Shift Solenoid Valve C Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0980 indicated?*

   **YES -**Go to step 8.

   **NO -**Go to step 5.

5. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.

10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B20 and C40.

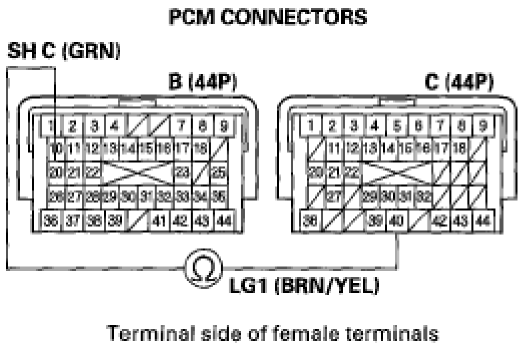

PCM CONNECTORS
SH C (GRN)
B (44P)
C (44P)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 157: Measuring Resistance Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES -**Go to step 22.

**NO -**Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B20 and shift solenoid harness connector terminal No. 1.

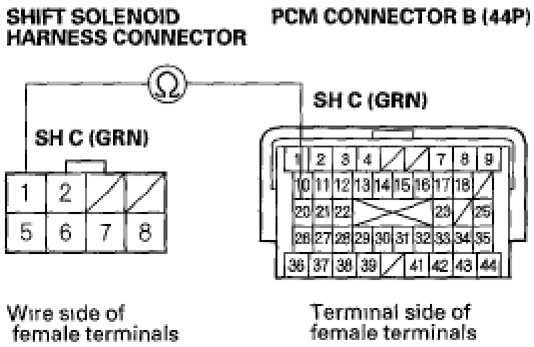

SHIFT SOLENOID HARNESS CONNECTOR
PCM CONNECTOR B (44P)
SH C (GRN)
SH C (GRN)
Wire side of female terminals
Terminal side of female terminals

**Fig. 158: Checking Continuity Between PCM Terminal B20 And Shift Solenoid Harness Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 14.

**NO -**Repair open in the wire between PCM connector terminal B20 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 1 and the shift solenoid valve C connector terminal.

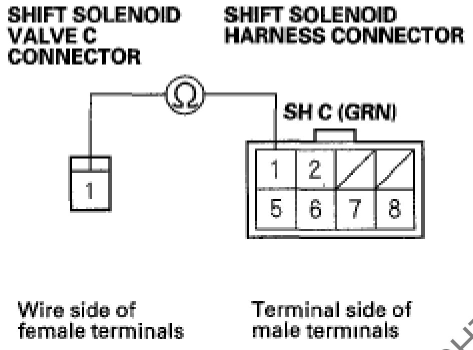

SHIFT SOLENOID VALVE C CONNECTOR
SHIFT SOLENOID HARNESS CONNECTOR
Ω
SH C (GRN)
1
1
2
5
6
7
8
Wire side of female terminals
Terminal side of male terminals

**Fig. 159: Checking Continuity Between Shift Solenoid Harness Terminal 1 And Shift Solenoid Valve C Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO -**Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.

19. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive in 3rd gear in D, for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0980 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve C and the PCM, then go to step 1.

    **NO -**Go to step 21.

21. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive in 3rd gear in D, for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0980 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 25.

25. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0982: Short in Shift Solenoid Valve D Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

    *Is DTC P0982 indicated?*

    **YES -**Go to step 8.

    **NO -**Go to step 5.

5. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B11 and C40.

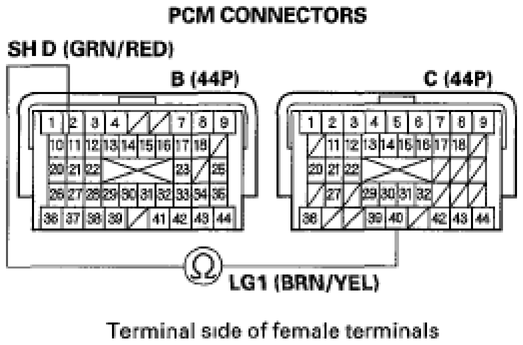


**Fig. 160: Measuring Resistance Between PCM Connector Terminals B11 And C40**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES -**Go to step 12.

**NO -**Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B11 and C40.

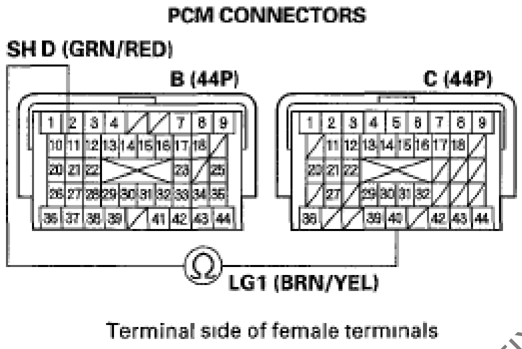


**Fig. 161: Checking Continuity Between PCM Connector Terminals B11 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B11 and the shift solenoid harness connector, then go to step 15.

**NO -**Go to step 14.

14. Inspect shift solenoid valve D and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

*Is shift solenoid valve D and the harness OK?*

**YES -**Go to step 21.

**NO -**Replace shift solenoid valve D or the shift solenoid harness (see **SHIFT**

**SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0982 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM, then go to step 1.

    **NO -**Go to step 20.

20. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0982 indicated?*

    **YES -**Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

**NO -**Go to step 24.

24. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

### DTC P0983: Open in Shift Solenoid Valve D Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
4. Check for DTCs with the HDS.

*Is DTC P0983 indicated?*

**YES -**Go to step 8.

**NO -**Go to step 5.

5. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

   *Is a clicking sound heard?*

   **YES -**Go to step 6.

   **NO -**Go to step 8.

6. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Go to step 8.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B11 and C40.

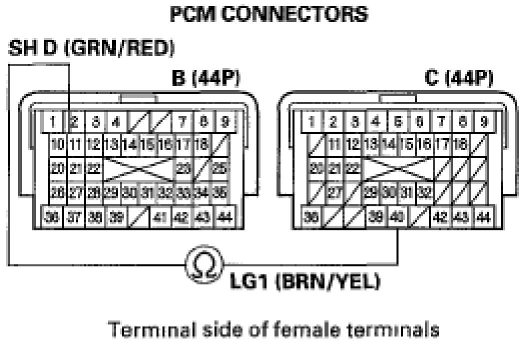

PCM CONNECTORS
SH D (GRN/RED)
B (44P)
C (44P)
LG1 (BRN/YEL)
Terminal side of female terminals

**Fig. 162: Measuring Resistance Between PCM Connector Terminals B11 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B11 and shift solenoid harness connector terminal No. 8.

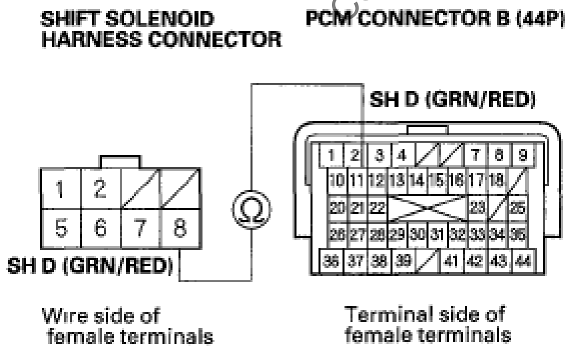

SHIFT SOLENOID HARNESS CONNECTOR
PCM CONNECTOR B (44P)
SH D (GRN/RED)
SH D (GRN/RED)
Wire side of female terminals
Terminal side of female terminals

**Fig. 163: Checking Continuity Between PCM Terminal B11 And Shift Solenoid Harness Connector Terminal 8**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire between PCM connector terminal B11 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 8 and the shift solenoid valve D connector terminal.

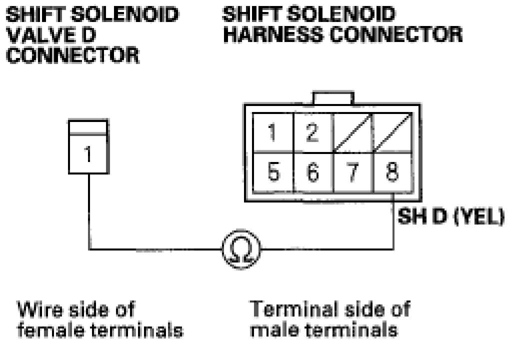

SHIFT SOLENOID VALVE D CONNECTOR
SHIFT SOLENOID HARNESS CONNECTOR
1
1
2
5
6
7
8
SH D (YEL)
Ω
Wire side of female terminals
Terminal side of male terminals

**Fig. 164: Checking Continuity Between Shift Solenoid Harness Connector Terminal 8 And Shift Solenoid Valve D Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO** -Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0983 indicated?*

**YES -**Check for poor connections or loose terminals between shift solenoid valve D and the PCM, then go to step 1.

**NO -**Go to step 21.

21. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0983 indicated?*

    **YES -**Check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO -**Go to step 25.

25. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

### DTC P16C0: PCM A/T Control System Incomplete Update

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is indicated when PCM updating is incomplete.**
- **Do not turn the ignition switch to LOCK (0) while updating the PCM. If you turn the ignition switch to LOCK (0) before completion, the PCM can be damaged.**

1. Update the PCM (see **UPDATING THE PCM** ).
2. Check for DTCs with the HDS.

*Is DTC P16C0 indicated?*

**YES** -Replace the PCM (see **ECM/PCM REPLACEMENT** ).

**NO** -PCM updating is complete.

### DTC P1717: Open in Transmission Range Switch ATP RVS Switch Circuit

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Shift to R, and check the A/T R SWITCH in the DATA LIST with the HDS.

   *Is the A/T R SWITCH ON?*

   **YES -**Go to step 3.

   **NO -**Check for proper transmission range switch installation (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), adjust the shift cable (see **SHIFT CABLE ADJUSTMENT** ), then recheck.

3. Check the REVERSE SWITCH in the DATA LIST with the HDS.

   *Is the REVERSE SWITCH ON?*

   **YES -**Intermittent failure, the system is OK at this time.

   **NO -**Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the transmission range switch connector.
6. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

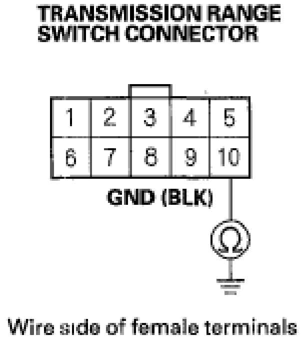

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
GND (BLK)
Ω
Wire side of female terminals

**Fig. 165: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 7.

**NO -**Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 10.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between transmission range switch connector terminals No. 1 and No. 10.

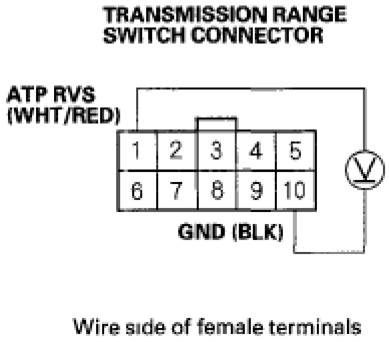

TRANSMISSION RANGE SWITCH CONNECTOR
ATP RVS (WHT/RED)
1
2
3
4
5
6
7
8
9
10
V
GND (BLK)
Wire side of female terminals

**Fig. 166: Measuring Voltage Between Transmission Range Switch Connector Terminals 1 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 9.

**NO -**Repair open in the wire between PCM connector terminal B22 and the transmission range switch, then go to step 10.

9. Check for continuity between transmission range switch connector terminals No. 1 and No. 10 while the shift lever is in R, and when the shift lever is shifted to any position other than R.

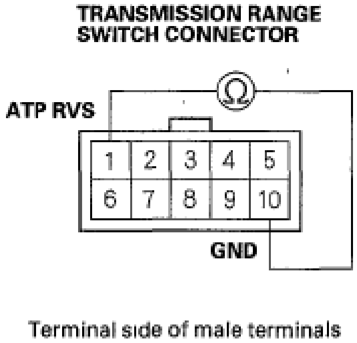


**Fig. 167: Checking Continuity Between Transmission Range Switch Connector Terminals 1 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity while the shift lever is in R, and no continuity when the shift lever is shifted to any position other than R?*

**YES -**Go to step 16.

**NO -**Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 10.

10. Reconnect all connectors.
11. Turn the ignition switch to ON (II).
12. Clear the DTC with the HDS.
13. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive at speeds over 3 mph (5 km/h) for at least 2 seconds.
14. Check for DTCs with the HDS.

*Is DTC P1717 indicated?*

**YES -**Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

**NO -**Go to step 15.

15. Monitor the OBD STATUS for P1717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 13.

16. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
17. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive at speeds over 3 mph (5 km/h) for at least 2 seconds.
18. Check for DTCs with the HDS.

    *Is DTC P1717 indicated?*

    **YES -**Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1.

    **NO -**Go to step 19.

19. Monitor the OBD STATUS for P1717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 18, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 17.

### DTC P1746: Problem in Shift Control System; Cut Valve A Stuck OFF, or Cut Valve B Stuck ON

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 9.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go

to step 8.

8. Monitor the OBD STATUS for P1746 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Repair cut valve A in the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), cut valve B in the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), replace the main valve body or the servo body, or replace the transmission, then go to step 9.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P1746 indicated?*

    **YES -**Go to step 4.

    **NO -**Go to step 12.

12. Monitor the OBD STATUS for P1746 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, go to step 4. If the HDS indicates NOT COMPLETED, go to step 9.

**DTC P1747: Problem in Shift Control System; Cut Valve A Stuck ON, or Cut Valve B Stuck OFF**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES -**Replace the transmission, then go to step 9.

   **NO -**Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P1747 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES -**Repair cut valve A in the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), cut valve B in the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), replace the main valve body or the servo body, or replace the transmission, then go to step 9.

   **NO -**If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P1747 indicated?*

    **YES -**Go to step 4.

    **NO -**Go to step 12.

12. Monitor the OBD STATUS for P1747 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, go to step 4. If the HDS indicates NOT COMPLETED, go to step 9.

**DTC P1780: Problem in Shift Control System**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Check for other DTCs indicated along with DTC P1780 with the HDS.

**NOTE:** **DTC P1780 means there is one or more A/T DTCs regarding the shift control system.**

*Are there other DTCs?*

**YES -**Go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**Go to step 6.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Check for DTCs with the HDS.

*Is DTC P1780 indicated?*

**YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

**NO -**Go to step 10.

10. Monitor the OBD STATUS for P1780 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

### DTC P2122: Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit Low Voltage Input

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P2122 indicated in the PGM-FI SYSTEM?*

   **YES -**Go to the DTC P2122 troubleshooting in the electronic throttle control system (ETCS) (see **DTC P2122: APP SENSOR A (THROTTLE POSITION SENSOR D) CIRCUIT LOW VOLTAGE** ).

   **NO -**Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P2122 indicated in the A/T SYSTEM?*

   **YES -**Go to step 5.

   **NO -**Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.

8. Start the engine, and wait for at least 2 minutes.
9. Check for DTCs the A/T SYSTEM with the HDS.

   *Is DTC P2122 indicated in the A/T SYSTEM?*

   **YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1.

   **NO -**Go to step 10.

10. Monitor the OBD STATUS for P2122 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 8.

**DTC P2123: Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit High Voltage Input**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snap shot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

*Is DTC P2123 indicated in the PGM-FI SYSTEM?*

**YES** -Go to the DTC P2123 troubleshooting in the electronic throttle control system (ETCS) (see **DTC P2123: APP SENSOR A (THROTTLE POSITION SENSOR D) CIRCUIT HIGH VOLTAGE** ).

**NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P2123 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Start the engine, and wait for at least 2 minutes.
9. Check for DTCs the A/T SYSTEM with the HDS.

   *Is DTC P2123 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1.

   **NO** -Go to step 10.

10. Monitor the OBD STATUS for P2123 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 8.

**DTC U0028: F-CAN Malfunction (BUS-OFF (PCM))**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0028 indicated in he A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0028 indicated in the A/T SYSTEM?*

   **YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO -**Go to step 8.

8. Monitor the OBD STATUS for U0028 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

**DTC U0121: F-CAN Malfunction (PCM-ABS)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES -**Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO -**Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0121 indicated in the A/T SYSTEM?*

   **YES -**Go to step 5.

   **NO -**Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0121 indicated in the A/T SYSTEM?*

   **YES -**Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO -**Go to step 8.

8. Monitor the OBD STATUS for U0121 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES -**If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO -**If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

### DTC U0155: F-CAN Malfunction (PCM-Gauge Control Module)

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES -**Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO -**Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0155 indicated in the A/T SYSTEM?*

   **YES -**Go to step 5.

**NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0155 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO** -Go to step 8.

8. Monitor the OBD STATUS for U0151 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

**ROAD TEST**

1. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
2. Apply the parking brake, and block both rear wheels.

3. Shift to D while pressing the brake pedal. Press the accelerator pedal, and release it suddenly. The engine should not stall.
4. Repeat step 3 in all shift lever positions.
5. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T Mode Menu.

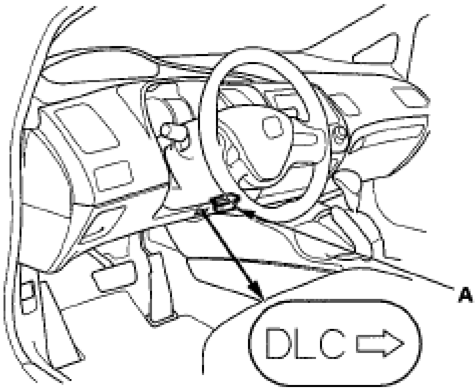


**Fig. 168: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. Prepare the HDS to take a HIGH SPEED SNAPSHOT (Refer to the HDS user's guide for more details if needed):
   - Select High Speed Snapshot.
   - Select these parameters:
     - Vehicle Speed
     - Output Shaft (Countershaft) Speed
     - Input Shaft (Mainshaft) Speed (rpm)
     - Engine Speed
     - Relative TP Sensor
     - APP Sensor A (V)
     - ATF Temp Sensor
     - Battery Voltage
     - Shift Control

        - Brake Switch
    - Set the Trigger Type to Parameter.
    - Adjust the Parameter setting to APP Sensor A (V) above 1.3 V.
    - Set the recording time to 60 seconds.
    - Set the Trigger point to -30 seconds.

8. Find a suitable level road. When you are ready to do the test, press OK on the HDS.
9. Monitor the HDS and accelerate quickly until the APP Sensor A reads 1.3 V. Maintain a steady throttle until the transmission shifts to 5th gear, then slow the vehicle and come to a stop.
10. Save the snapshot if the entire event was recorded or increase the recording time setting as necessary and repeat step 9.
11. Adjust the Parameter setting to 2.5 V. Retest-drive the vehicle. While monitoring the HDS accelerate quickly until the APP Sensor A reads 2.5 V.

    Maintain a steady throttle until the transmission shifts to 5th gear (or reasonable speed), then slow the vehicle and come to a stop.

12. Save the snapshot if the entire event was recorded or increase the recording time setting as necessary and repeat step 11.
13. Accelerate quickly until the accelerator pedal is to the floor. Maintain a steady pedal until the transmission shifts to 3rd gear, then slow to a stop, and save the snap shot.
14. Review each snapshot individually and compare the Shift Command, APP Sensor A (V), and the Vehicle Speed to the table below.

    **Upshift: D Position**

    **VEHICLE SPEED REFERENCE - UPSHIFT D POSITION**

| **APP Sensor A voltage: 1.3 V** | |
|---|---|
| 1st-->2nd | 9-12 mph (15-19 km/h) |
| 2nd-->3rd | 17-21 mph (28-33 km/h) |

| | |
|---|---|
| 3rd-->4th | 26-30 mph (42-49 km/h) |
| 4th-->5th | 35-41 mph (57-66 km/h) |
| Lock-->up ON | 31-37 mph (50-60 km/h) |
| **APP Sensor A voltage: 2.5 V** | |
| 1st-->2nd | 18-22 mph (29-35 km/h) |
| 2nd-->3rd | 34-39 mph (54-62 km/h) |
| 3rd-->4th | 50-55 mph (80-89 km/h) |
| 4th-->5th | 75-86 mph (121-138 km/h) |
| Lock-->up ON | 93-104 mph (150-167 km/h) |
| **Fully-opened throttle APP Sensor A voltage: 4.4 V** | |
| 1st-->2nd | 35-40 mph (57-65 km/h) |
| 2nd-->3rd | 64-72 mph (103-116 km/h) |
| 3rd-->4th | 102-112 mph (164-181 km/h) |

### Downshift: D Position

### VEHICLE SPEED REFERENCE - DOWNSHIFT D POSITION

| | |
|---|---|
| **APP Sensor A voltage: 1.3 V** | |
| Lock-up OFF | 30-37 mph (49-59 km/h) |
| 5th-->4th | 30-35 mph (49-57 km/h) |

| | |
|---|---|
| 4th-->3rd | 22-25 mph (36-41 km/h) |
| 3rd-->2nd | 5-8 mph (8-13 km/h) |
| 2nd-->1st | 5-8 mph (8-13 km/h) |
| **APP sensor A voltage: 2.5 V** | |
| Lock-up OFF | 60-68 mph (97-110 km/h) |
| **Fully-opened throttle APP Sensor A voltage: 4.4 V** | |
| Lock-up OFF | 119-129 mph (191-208 km/h) |
| 4th-->3rd | 82-92 mph (132-148 km/h) |
| 3rd-->2nd | 54-61 mph (87-98 km/h) |
| 2nd-->1st | 26-31 mph (42-50 km/h) |

15. Drive the vehicle in 4th or 5th gear in D, then shift to 2, the vehicle should immediately begin to slow down from engine braking.
16. Shift to 1, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage. Upshifts should not occur in this position.
17. Shift to 2, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage. Upshifts and downshifts should not occur in this position.
18. Shift to R, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.
19. Park the vehicle on a slope (about 16-degrees), apply the brake, and shift into P. Release the brake; the vehicle should not move.

**NOTE: Always use the parking brake to hold the vehicle, when stopped on an incline in gear. Depending on the grade of the incline, the vehicle could roll backwards if the brake is released.**

### STALL SPEED TEST

1. Make sure the transmission fluid is filled to the proper level (see **ATF LEVEL CHECK** ).
2. Apply the parking brake, and block all four wheels.
3. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T DATA LIST.

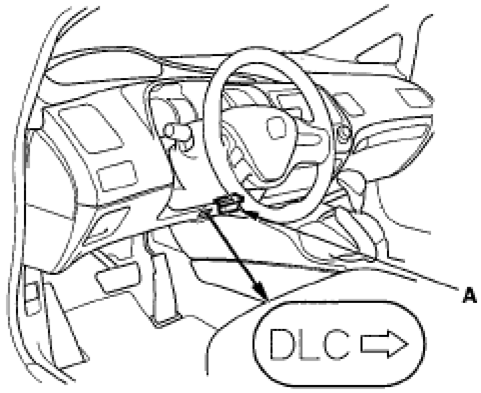


**Fig. 169: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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4. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Make sure the A/C switch is OFF.
6. After the engine has warmed up to normal operating temperature (the radiator fan comes on), shift to 2.
7. Firmly press the brake pedal and accelerator pedal for 6 to 8 seconds, and note engine speed. Do not move the shift lever while raising the engine speed.
8. Allow 2 minutes for cooling, then repeat the test in the D, 1, and R.

**NOTE:**

- **Do not test stall speed for more than 10 seconds at a time.**
- **Stall speed tests should be used for diagnostic purposes only.**
- **Stall speed tests should be the same in D, 2, 1, and**

**R.**

- **Do not test stall speed with the A/T oil pressure gauges installed.**

**Stall Speed rpm:**

**Specification: 2,670 rpm**

**Service Limit: 2,520-2,820 rpm**

9. If the stall speeds are out of the service limit, problems and probable causes are listed in the table.

**PROBLEMS AND PROBABLE CAUSES**

| Problem | Probable causes |
|---|---|
| Stall speed rpm high in the D, 2, 1, and R positions | • ATF pump output low<br>• Clogged ATF strainer<br>• Regulator valve stuck<br>• Slipping clutch |
| Stall speed rpm high in the 1 position | Slippage of 1st clutch |
| Stall speed rpm high in the 2 position | Slippage of 2nd clutch |
| Stall speed rpm high in the R position | Slippage of 5th clutch |
| Stall speed rpm low in the D, 2, 1, and R positions | • Engine output low<br>• Engine throttle valve closed<br>• Torque converter one-way clutch slipping |

**PRESSURE TEST**

## Special Tools Required

- A/T oil pressure gauge set w/panel 07406-0020400 or 07406-0020401
- A/T pressure hose, 2,210 mm 07MAJ-PY4011A
- A/T pressure hose adapter 07MAJ-PY40120

**NOTE: There may come ABS DTC(s) during the pressure test. If the ABS DTC(s) comes on, clear the ABS DTC(s) with the HDS.**

1. Make sure the transmission fluid is filled to the proper level (see **ATF LEVEL CHECK** ).
2. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
3. Allow the front wheels to rotate freely.
4. Remove the splash shield.
5. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T Mod Menu.

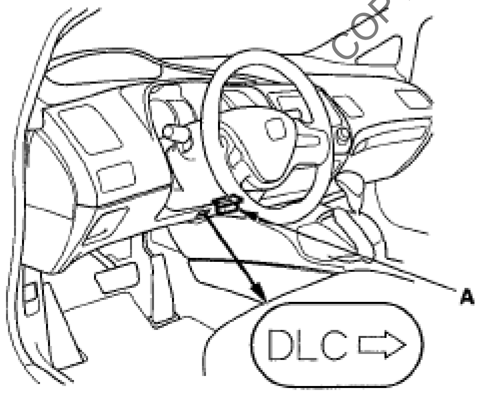

**Fig. 170: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. Connect the A/T oil pressure gauge to the line pressure inspection port (A). Do

not allow dust or other foreign particles to enter the ports while connecting the gauges.

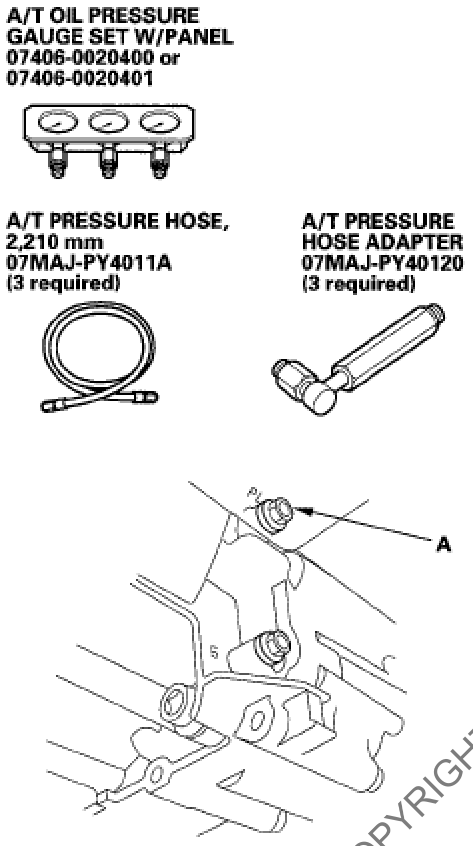
A/T OIL PRESSURE GAUGE SET W/PANEL 07406-0020400 or 07406-0020401
A/T PRESSURE HOSE, 2,210 mm 07MAJ-PY4011A (3 required)
A/T PRESSURE HOSE ADAPTER 07MAJ-PY40120 (3 required)
A

**Fig. 171: Identifying Line Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
9. Measure the line pressure at the line pressure inspection port in P or N while holding the engine speed at 2,000 rpm.

**NOTE: Higher pressure may be indicated if measurements are made in shift lever position other than P or N.**

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |

| | | |
|---|---|---|
| Line | 900-960 kPa (9.2-9.8 kgf/cm$^2$ , 130-140 psi) | 850 kPa (8.7 kgf/cm$^2$ , 120 psi) |

10. Turn the engine off, then disconnect the A/Toil pressure gauge from the line pressure inspection port.
11. Install the sealing bolt to the line pressure inspection port with a new sealing washer, and tighten the bolt to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.
12. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ) and the intake air duct.
13. Connect the A/Toil pressure gauge to the 1st clutch pressure inspection port (B). Then temporarily install the air cleaner assembly and the intake air duct.

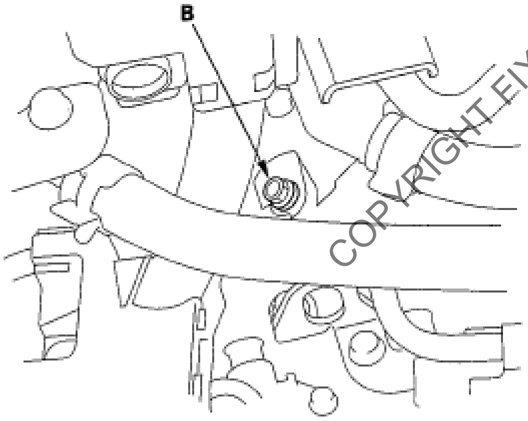

**Fig. 172: Identifying 1st Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Connect the A/Toil pressure gauge to the 2nd clutch pressure inspection port (C).

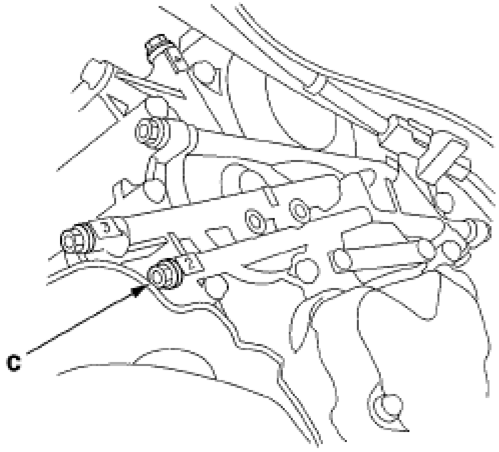

**Fig. 173: Identifying 2nd Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Start the engine, and shift to 1.
16. Measure the 1st clutch pressure at the 1st clutch pressure inspection port (B) while holding the engine speed at 2,000 rpm.
17. Shift to 2, and measure the 2nd clutch pressure at the 2nd clutch pressure inspection port (C) while holding the engine speed at 2,000 rpm.

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |
| 1st clutch (B)<br>2nd clutch (C) | 890-970 kPa (9.1-9.9 kgf/cm$^2$ , 130-140 psi) | 840 kPa (8.6 kgf/cm$^2$ , 120 psi) |

18. Turn the engine off, remove the air cleaner assembly and the intake air duct, then disconnect the A/T oil pressure gauges from the 1st clutch pressure and the 2nd clutch pressure inspection ports.
19. Install the sealing bolts to the 1st clutch pressure and the 2nd clutch pressure inspection ports with new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.
20. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER**

**REMOVAL/INSTALLATION** ).

21. Connect the A/T oil pressure gauge to the 3rd clutch pressure inspection port (D) and the 4th clutch pressure inspection port (E).

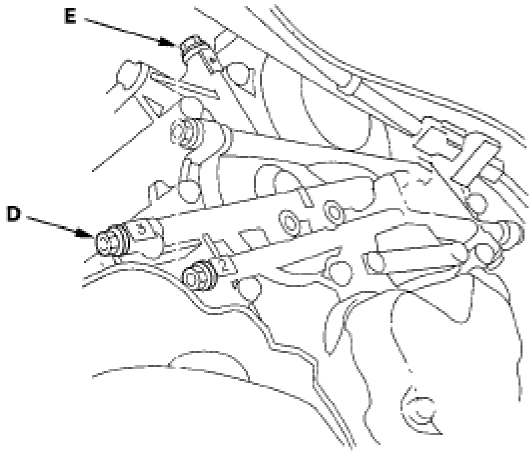

**Fig. 174: Identifying 3rd Clutch Pressure Inspection Port And 4th Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Connect the A/T oil pressure gauge to the 5th clutch pressure inspection port (F).

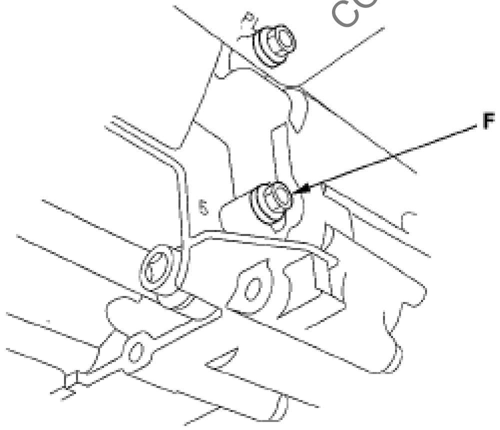

**Fig. 175: Identifying 5th Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Select Pressure Test Assistance Mode in the Miscellaneous Test Menu of the A/T Mode Menu.

24. Start the engine, and shift to D3.
25. Measure the 3rd clutch pressure at the 3rd clutch pressure inspection port (D) while holding the engine speed at 2,000 rpm.
26. Shift to D, and measure the 4th clutch pressure at the 4th clutch pressure inspection port (E) and the 5th clutch pressure at the 5th clutch pressure inspection port (F) while holding the engine speed at 2,000 rpm.

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | **Standard** | **Service Limit** |
| 3rd clutch (D)<br>4th clutch (E)<br>5th clutch (F) | 890-970 kPa (9.1-9.9 kgf/cm$^2$ , 130-140 psi) | 840 kPa (8.6 kgf/cm$^2$ , 120 psi) |

27. Bring the engine back to an idle, then apply the brake to stop the wheels from rotating.
28. Shift to R, then release the brake pedal. Raise the engine speed to 2,000 rpm, and measure the 5th clutch pressure at the 5th clutch pressure inspection port (F).

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | **Standard** | **Service Limit** |
| 5th clutch (F) in R | 890-970 kPa (9.1-9.9 kgf/cm$^2$ , 130-140 psi) | 840 kPa (8.6 kgf/cm$^2$ , 120 psi) |

29. Turn the engine off, then disconnect the A/T oil pressure gauges from the 3rd, 4th, and 5th clutch pressure inspection ports.
30. Install the sealing bolts in the 3rd, 4th, and 5th clutch pressure inspection ports with new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.

31. If the pressures are out of the service limit, problems and probable causes are listed in the table.

**PROBLEMS AND PROBABLE CAUSES**

| Problem | Probable causes |
|---|---|
| No or low line pressure | • Torque converter<br>• ATF pump<br>• Regulator valve<br>• Torque converter check valve<br>• Clogged ATF strainer |
| No or low 1st clutch pressure | • 1st clutch<br>• O-rings |
| No or low 2nd clutch pressure | • 2nd clutch<br>• O-rings |
| No or low 3rd clutch pressure | • 3rd clutch<br>• O-rings |
| No or low 4th clutch pressure | • 4th clutch<br>• O-rings |
| No or low 5th clutch pressure | • 5th clutch<br>• O-rings |
| No or low 5th clutch pressure in the R position | • Servo valve<br>• 4th clutch<br>• O-rings |

32. Install the splash shield.

**SHIFT SOLENOID VALVE TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

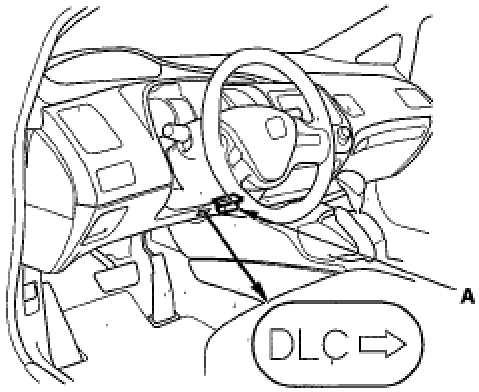

**Fig. 176: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Solenoid Valve A, B, C, and D Test in the Miscellaneous Test Menu on the HDS.
4. Check that shift solenoid valve A, B, C, and D operate with the HDS. A clicking sound should be heard.
    - If a clicking sound is heard, the valves are OK.

      The test is complete, disconnect the HDS.

    - If no clicking sound is heard, go to step 5, and test the solenoid valves.
5. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
6. Remove the splash shield.
7. Disconnect the shift solenoid harness connector.

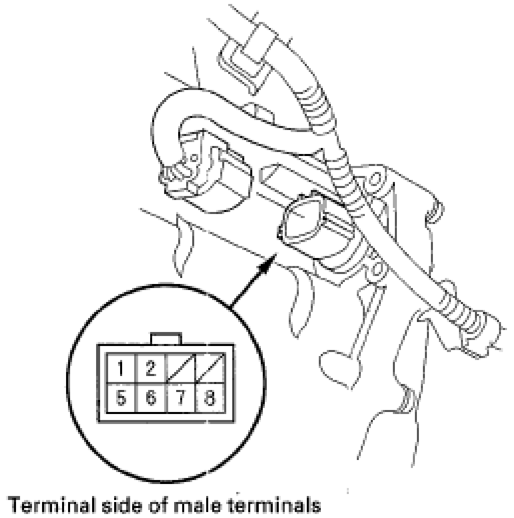

**Fig. 177: Identifying Shift Solenoid Harness Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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8. Measure the shift solenoid valve resistance between the shift solenoid harness connector terminals below and body ground:
    - No. 1: Shift solenoid valve C
    - No. 2: Shift solenoid valve B
    - No. 5: Shift solenoid valve A
    - No. 8: Shift solenoid valve D

    **Standard: 12-25 ohms**

    - If the resistance is within the standard, go to step 9 and check solenoid valve for a clicking sound.
    - If the resistance is out of standard, go to step 10.
9. Connect a jumper wire from the battery positive terminal to each shift solenoid harness connector terminals individually. A clicking sound should be heard.
    - If a clicking sound is heard, the valves are OK.

      The test is complete, connect the connector.

    - If no clicking sound is heard, go to step 10 and test the shift solenoid harness.

10. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

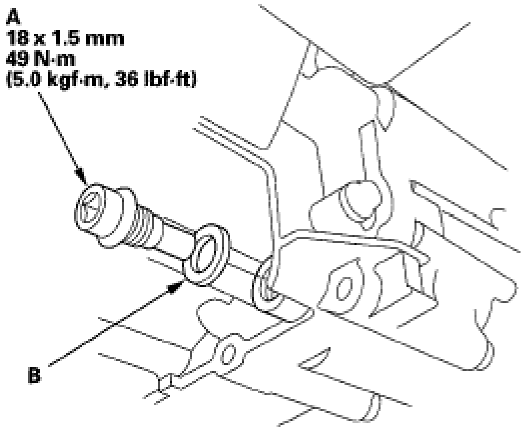

**Fig. 178: Identifying Drain Plug w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Reinstall the drain plug with a new sealing washer (B).
12. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

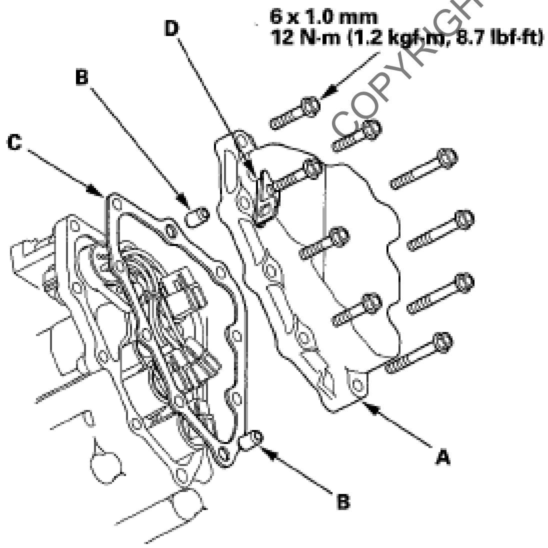

**Fig. 179: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Disconnect the connectors from shift solenoid valve A, shift solenoid valve B,

shift solenoid valve C, and shift solenoid valve D.

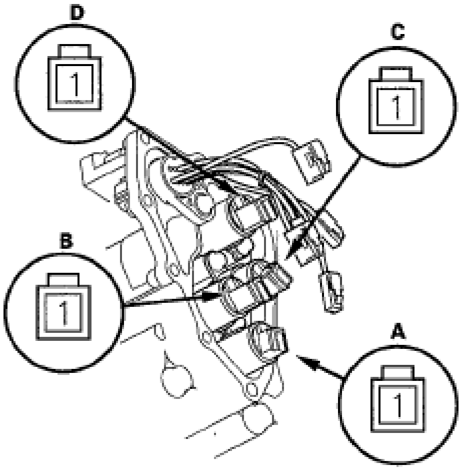

**Fig. 180: Identifying Shift Solenoid Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Measure the resistance of each solenoid valve between the connector terminal and body ground.

    **Standard: 12-25 ohms**

    - If the resistance is out of standard, go to step 17 and replace the shift solenoid valve.
    - If the resistance is within the standard, go to step 15 and check the solenoid valve for a clicking sound.
15. Connect a jumper wire from the positive battery terminal to each solenoid terminal individually.
    - If a clicking sound is heard, go to step 16 and replace the solenoid harness.
    - If no clicking sound is heard, go to step 17 and replace shift solenoid valve.
16. Remove the shift solenoid harness connector (A), and replace it. Install a new O-ring (B) on the shift solenoid harness connector, and install the connector in the transmission housing, then go to step 22.

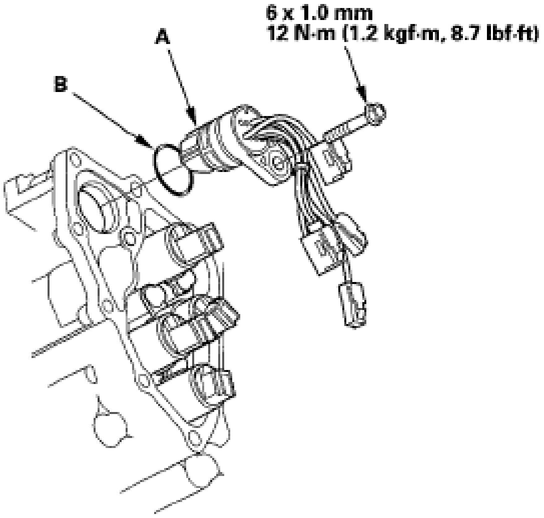
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
A
B

**Fig. 181: Identifying Shift Solenoid Harness Connector, O-Ring w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the mounting bolts, then hold the shift solenoid valve body and remove the solenoid valves. Do not hold the connector to remove the solenoid valve.

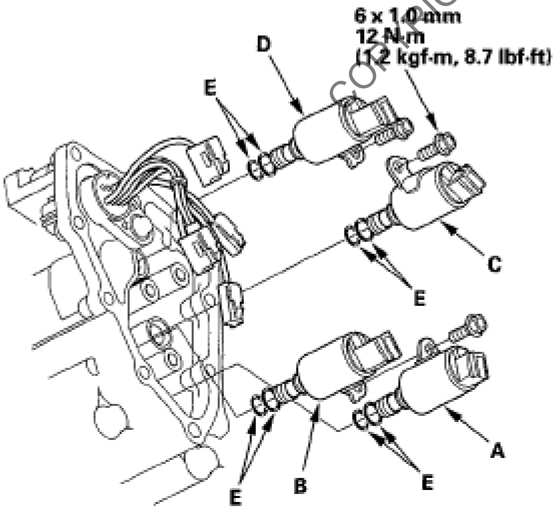
6 x 1.0 mm
12 N·m
(1.2 kgf·m, 8.7 lbf·ft)
D
E
C
E
E
B
E
A

**Fig. 182: Identifying Shift Solenoid Valve, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install new O-rings (two O-rings per solenoid valve) (E) on the reused solenoid valve.

**NOTE: A new solenoid valve comes with new O-rings. If you install a new solenoid valve, use the O-rings provided on it.**

19. Install shift solenoid valve D (black connector) and shift solenoid valve C (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.

**NOTE: Do not hold the solenoid valve by the connector when installing the solenoid valve. Be sure to hold the solenoid valve body.**

20. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.
21. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the bracket of shift solenoid valve B.

**NOTE: Do not install shift solenoid valve A before installing shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

22. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - ORN, WHT, and WHT wires to shift solenoid valve B.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
23. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
24. Check the connector for rust, dirt, or oil, then connect the connector securely.
25. Refill the transmission with ATF (see step 5 ).
26. Install the splash shield.

## SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT

1. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

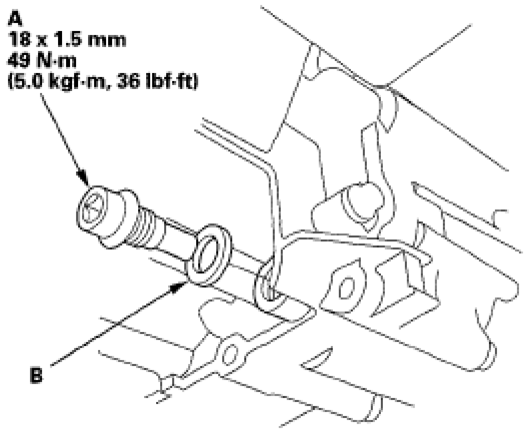

**Fig. 183: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Reinstall the drain plug with a new sealing washer (B).
5. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

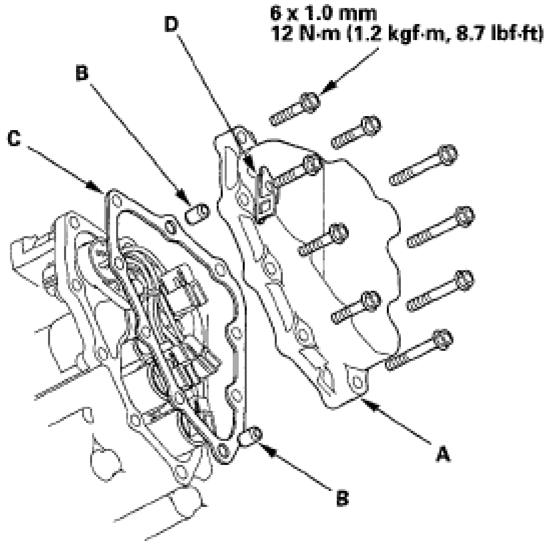

**Fig. 184: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the shift solenoid valve connectors.
    - If replacing shift solenoid valve(s), go to step 7.
    - If replacing the shift solenoid harness, remove the shift solenoid harness connector (A), and replace it. Install a new O-ring (B) on the new shift solenoid harness connector, and install it in the transmission housing, then go to step 12.

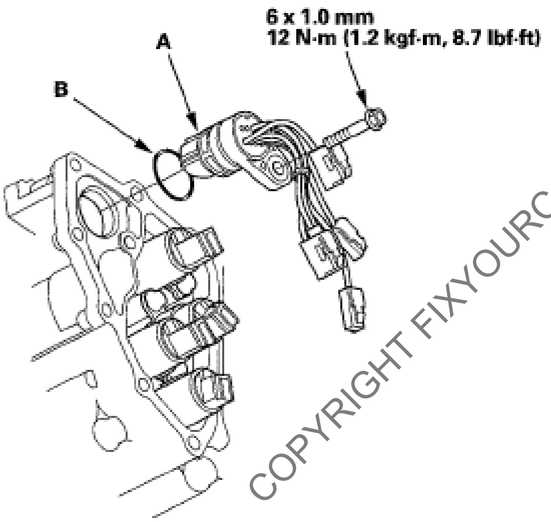

**Fig. 185: Identifying Shift Solenoid Harness Connector, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the mounting bolts, then hold the shift solenoid valve body and remove the solenoid valves. Do not hold the connector to remove the solenoid valve.

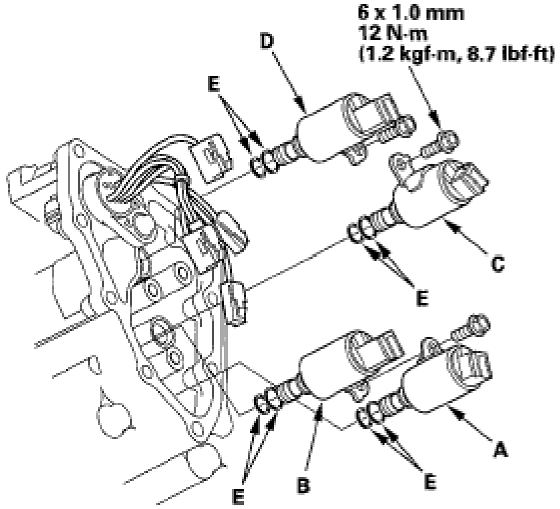

**Fig. 186: Identifying Shift Solenoid Valve, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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8. Install new O-rings (two O-rings per solenoid valve) (E) on the solenoid valve.

**NOTE: A new solenoid valve comes with new O-rings. If you install a new solenoid valve, use the O-rings provided on it.**

9. Install shift solenoid valve D (black connector) and shift solenoid valve C (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.

**NOTE: Do not hold the solenoid valve by the connector when installing the solenoid valve. Be sure to hold the solenoid valve body.**

10. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.
11. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the bracket of shift solenoid valve B.

**NOTE: Do not install shift solenoid valve A before installing**

**shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

12. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - ORN, WHT, and WHT wires to shift solenoid valve B.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
13. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
14. Check the connector for rust, dirt, or oil, then connect the connector securely.
15. Refill the transmission with ATF (see step 5 ).
16. Install the splash shield.

### A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

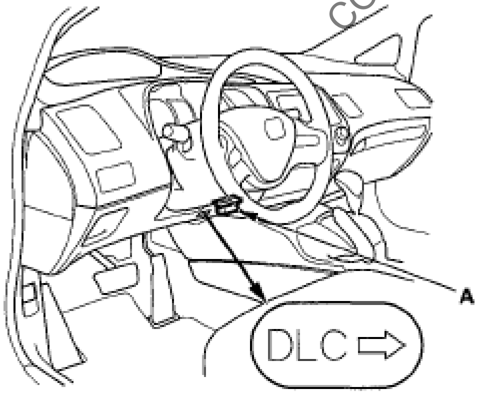

**Fig. 187: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** )

3. Select Clutch Pressure Control (Linear) Solenoid Valve A in the Miscellaneous Test Menu with the HDS.
4. Test A/T clutch pressure control solenoid valve A with the HDS.
    - If the valve tests OK, the test is complete. Disconnect the HDS.
    - If the valve does not test OK, follow the instructions on the HDS.
    - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

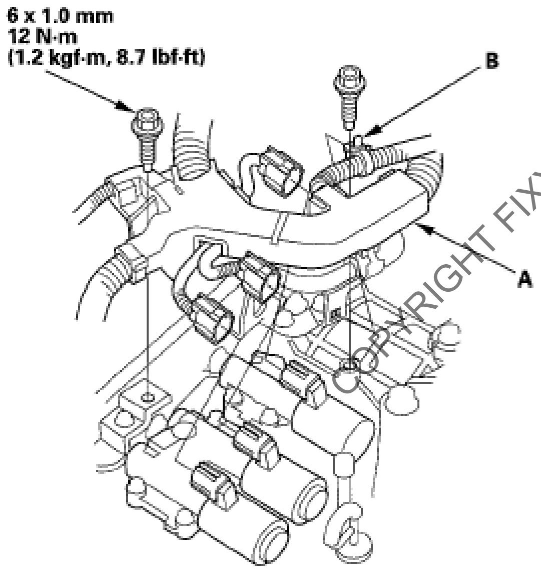

**Fig. 188: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve A connector (A)

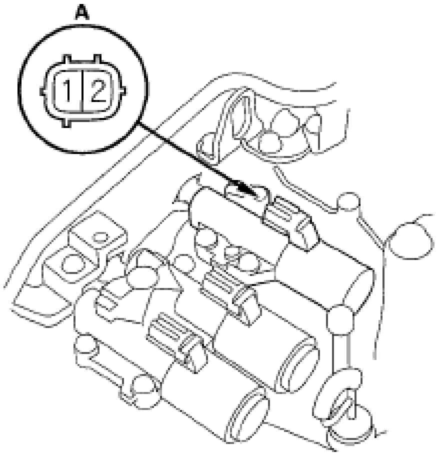

**Fig. 189: Identifying A/T Clutch Pressure Control Solenoid Valve A Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve A resistance at the connector terminals.

   **Standard: 3-10** ohms

   - If the resistance is out of standard, replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ).
   - If the resistance is within the standard, go to step 9.
9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve A connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
   - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
   - If no clicking sound is heard, go to step 10.
10. Remove the mounting bolts and A/T clutch pressure control solenoid valve A.

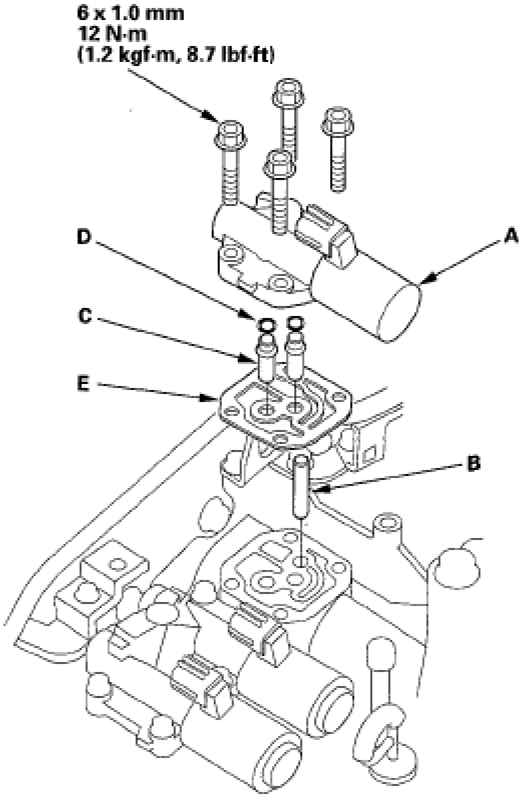

**Fig. 190: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (B), the ATF joint pipes (C), the O-rings (D), and the gasket (E).
12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve A connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve A moves.

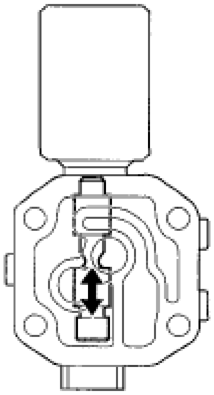

**Fig. 191: Checking A/T Clutch Pressure Control Solenoid Valve A**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valve A.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing, and install the ATF pipe and the ATF joint pipes.
17. Install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valve A.
19. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness clamp.
21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** )

### A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

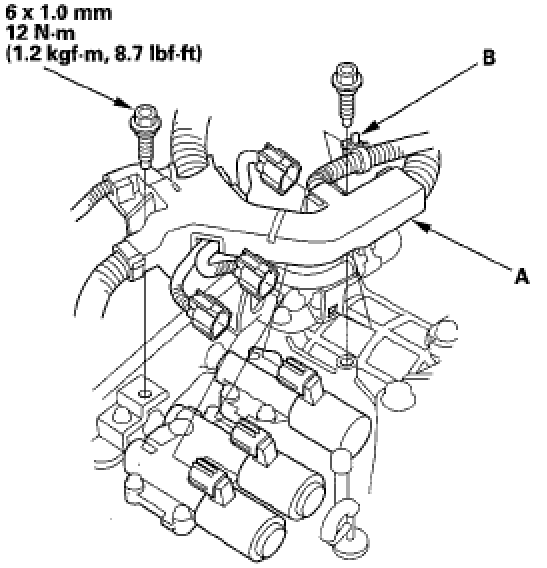

**Fig. 192: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the A/T clutch pressure control solenoid valve A connector.
4. Remove the mounting bolts and A/T clutch pressure control solenoid valve A.

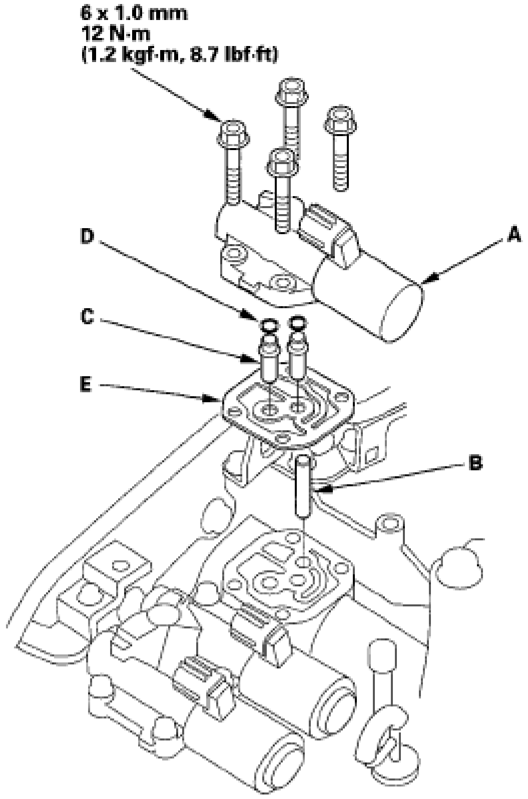

**Fig. 193: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the ATF pipe (B), the ATF joint pipes (C), the O-rings (D), and the gasket (E).
6. Check the fluid passage of the transmission housing for dust or dirt, and clean the passage.
7. Install a new gasket with the blue side down and the white side up on the transmission housing, and install the ATF pipe and the ATF joint pipes.
8. Install new O-rings over the ATF joint pipes.
9. Install a new A/T clutch pressure control solenoid valve A.
10. Check the A/T clutch pressure control solenoid valve A connector for rust, dirt, or oil, then connect the connector securely.
11. Secure the harness cover with the mounting bolts, and install the harness clamp.
12. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER**

**ELEMENT INSPECTION/REPLACEMENT** )

### A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

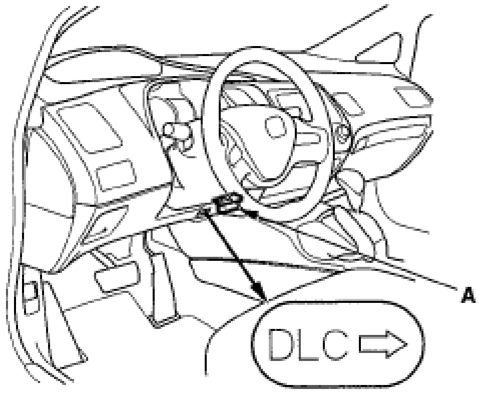

**Fig. 194: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Clutch Pressure Control (Linear) Solenoid Valve B in the Miscellaneous Test Menu with the HDS.
4. Test A/T clutch pressure control solenoid valve B with the HDS.
   - If the valve tests OK, the test is complete. Disconnect the HDS.
   - If the valve does not test OK, follow the instructions on the HDS.
   - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

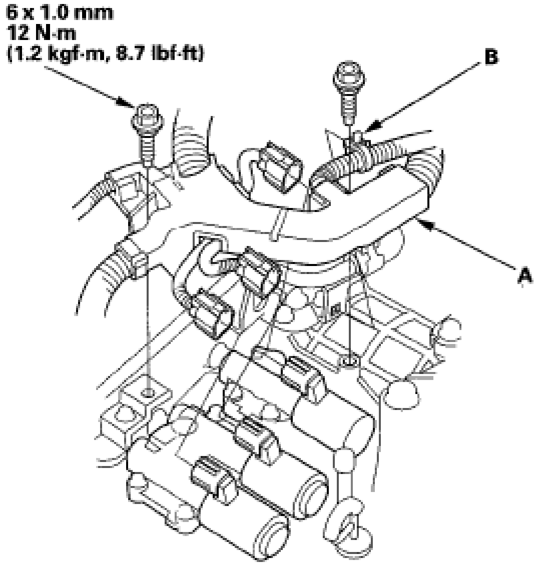

**Fig. 195: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve B connector (A).

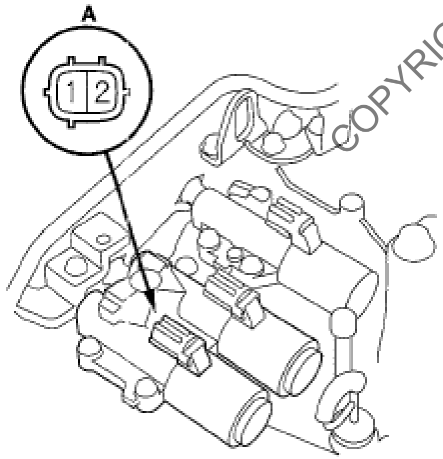

**Fig. 196: Identifying A/T Clutch Pressure Control Solenoid Valve B Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve B resistance at the connector terminals.

**Standard: 3-10** ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ).
- If the resistance is within the standard, go to step 9.

9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve B connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
    - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
    - If no clicking sound is heard, go to step 10.
10. Remove A/T clutch pressure control solenoid valve B and C.

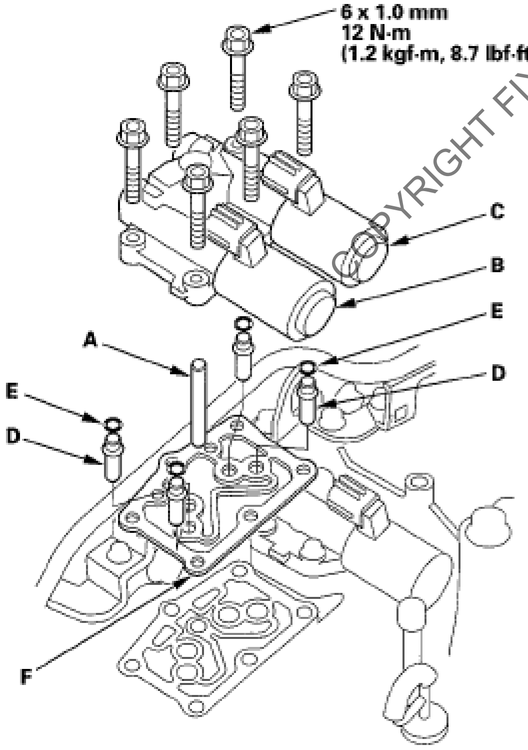

**Fig. 197: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the gasket (F).
12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve B connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve B moves.

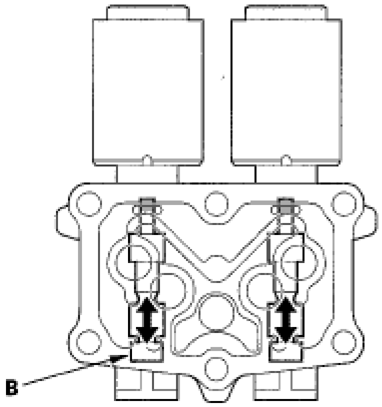

**Fig. 198: Checking A/T Clutch Pressure Control Solenoid Valve B**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves B and C.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing.
17. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valves B and C.
19. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness

clamp.

21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

### A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

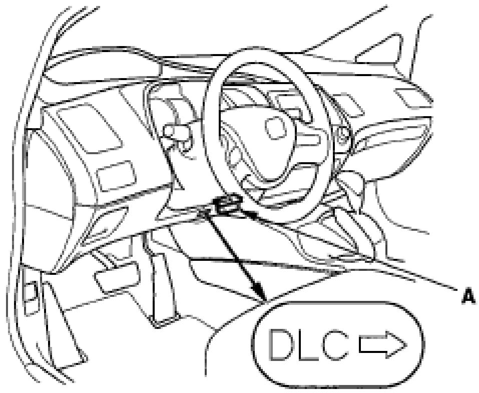

**Fig. 199: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Clutch Pressure Control (Linear) Solenoid Valve C in the Miscellaneous Test Menu on the HDS.
4. Test A/T clutch pressure control solenoid valve C with the HDS.
   - If the valve tests OK, the test is complete. Disconnect the HDS.
   - If the valve does not test OK, follow the instructions on the HDS.
   - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

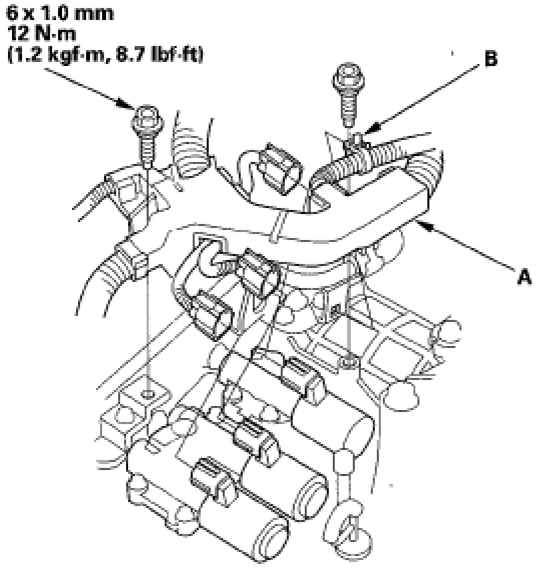

**Fig. 200: Identifying Harness Cover, Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve C connector (A).

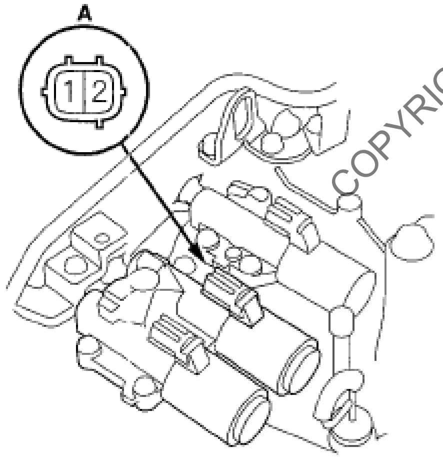

**Fig. 201: Identifying A/T Clutch Pressure Control Solenoid Valve C Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve C resistance at the connector terminals.

   **Standard: 3-10** ohms

  - If the resistance is out of standard, replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ).
  - If the resistance is within the standard, go to step 9.

9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve C connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
    - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
    - If no clicking sound is heard, go to step 10.
10. Remove A/T clutch pressure control solenoid valve B and C.

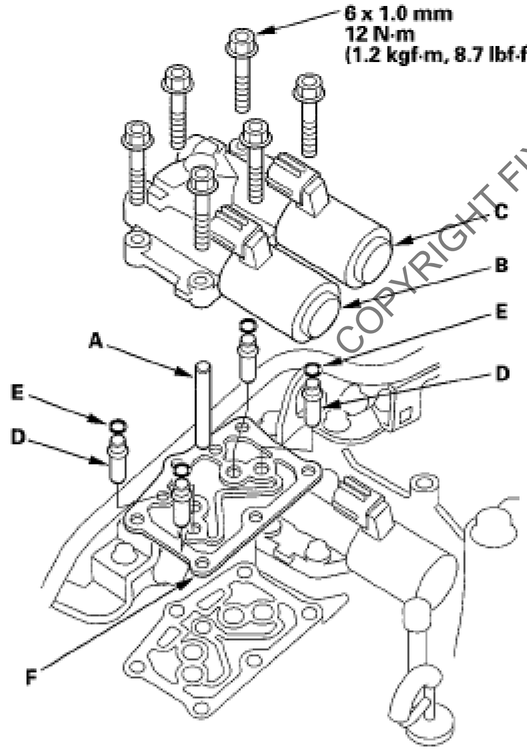

**Fig. 202: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the

gasket (F).

12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve C connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve C moves.

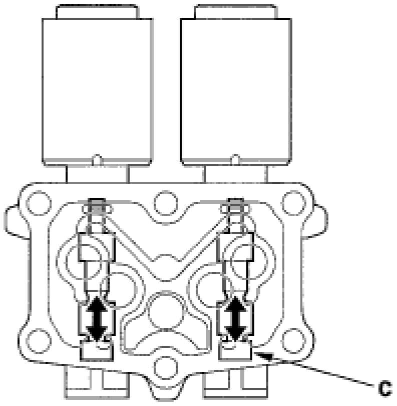

**Fig. 203: Checking A/T Clutch Pressure Control Solenoid Valve C**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves B and C.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing.
17. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valves B and C.
19. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness clamp.

21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

## A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (D).

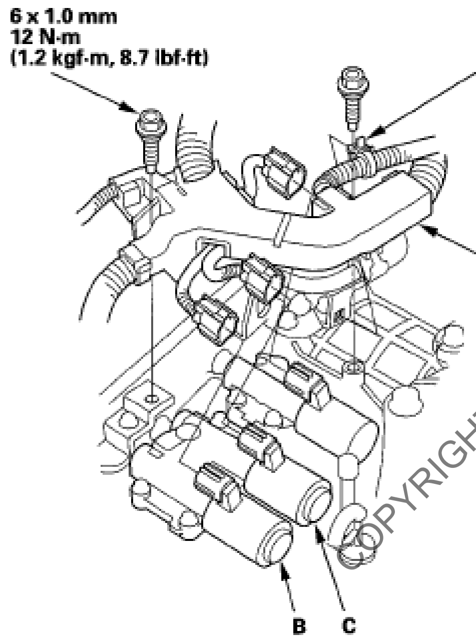

**Fig. 204: Identifying Harness Cover, Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the connectors from A/T clutch pressure control solenoid valve B and C.
4. Remove A/T clutch pressure control solenoid valve B and C.

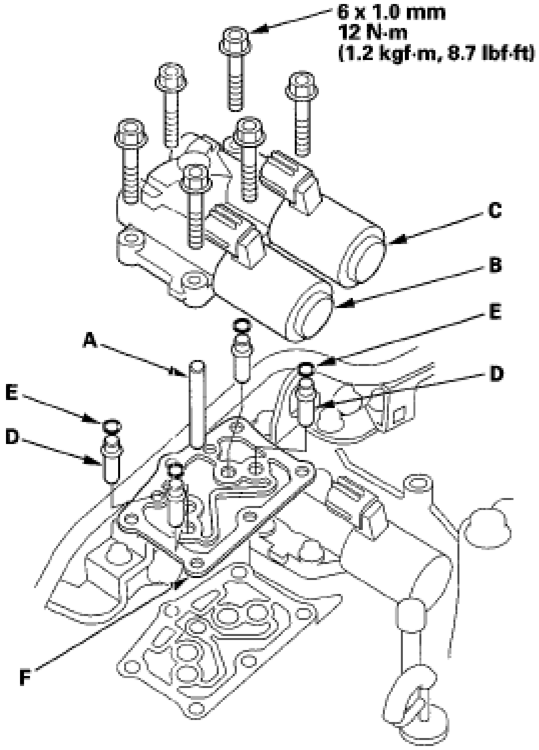

**Fig. 205: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the gasket (F).
6. Clean the mounting surface and the fluid passages of the transmission housing.
7. Install a new gasket with the blue side down and the white side up on the transmission housing.
8. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
9. Install a new A/T clutch pressure control solenoid valve B and C.
10. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
11. Secure the harness cover with the mounting bolts, and install the harness clamp.
12. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** )

## INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing bracket (B).

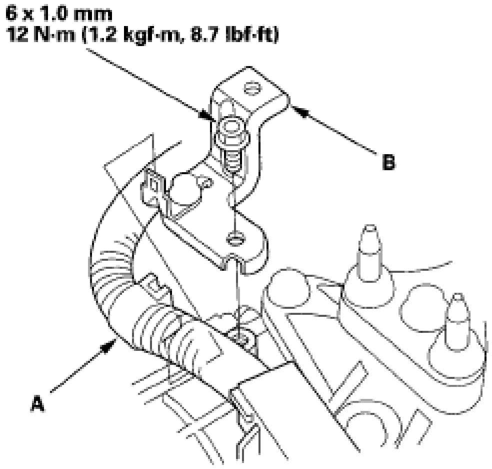

**Fig. 206: Identifying Harness Clamp, Torque Specification And Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the input shaft (mainshaft) speed sensor connector, and remove the input shaft (mainshaft) speed sensor (A).

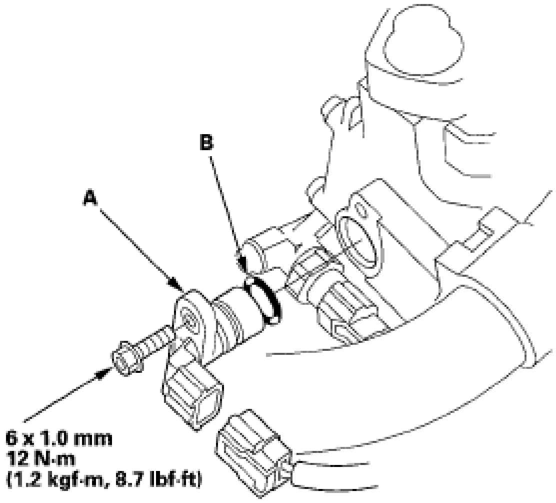

**Fig. 207: Identifying Input Shaft (Mainshaft) Speed Sensor, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new O-ring (B) on the new input shaft (mainshaft) speed sensor, then install the input shaft (mainshaft) speed sensor in the transmission housing.
5. Check the connector for rust, dirt, or oil, then connect the connector securely.
6. Install the air cleaner housing bracket, and install the harness clamp on its bracket.
7. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

### OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Disconnect the output shaft (countershaft) speed sensor connector, and remove the output shaft (countershaft) speed sensor (A).

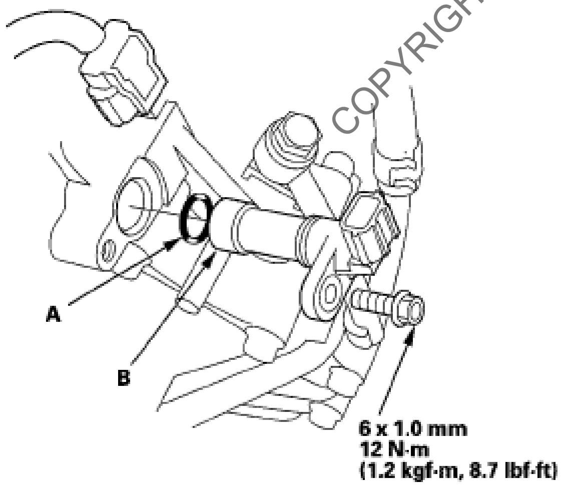

**Fig. 208: Identifying Output Shaft (Countershaft) Speed Sensor, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new O-ring (B) on a new output shaft (countershaft) speed sensor, then install the output shaft (countershaft) speed sensor in the transmission

housing.

4. Check the connector for rust, dirt, or oil, then connect the connector securely.
5. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

## 2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing bracket (B).

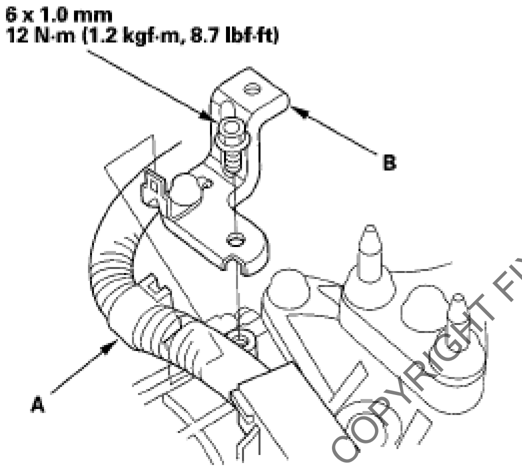

**Fig. 209: Identifying Harness Clamp, Air Cleaner Housing Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2nd clutch transmission fluid pressure switch connector, and remove the 2nd clutch transmission fluid pressure switch (A).

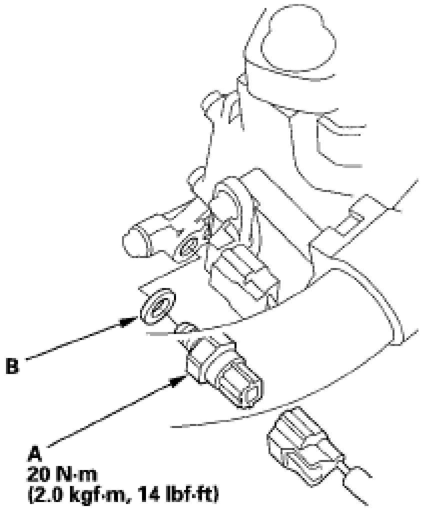

**Fig. 210: Identifying 2nd Clutch Transmission Fluid Pressure Switch, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Make sure there is no water, oil, dust, or foreign particles inside the connectors.
5. Install a new 2nd clutch transmission fluid pressure switch with a new sealing washer (B), and tighten the switch to the specified torque by turning the metal part, not the plastic part.
6. Connect the connector securely.
7. Install the air cleaner housing bracket, and install the harness clamp on its bracket.
8. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

### 3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Disconnect the 3rd clutch transmission fluid pressure switch connector, then remove the 3rd clutch transmission fluid pressure switch (A).

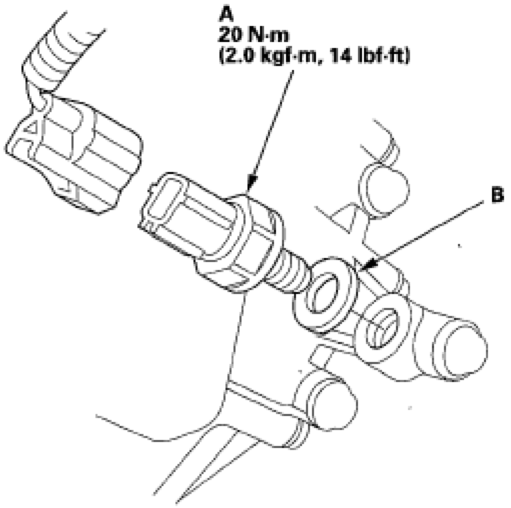

**Fig. 211: Identifying 3rd Clutch Transmission Fluid Pressure Switch, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Make sure there is no water, oil, dust, or foreign particles inside the connector.
5. Install a new 3rd clutch transmission fluid pressure switch with a new sealing washer (B), and tighten the switch to the specified torque by turning the metal part, not the plastic part.
6. Connect the connector securely.
7. Install the splash shield.

### ATF TEMPERATURE SENSOR TEST/REPLACEMENT

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Disconnect the shift solenoid harness connector.

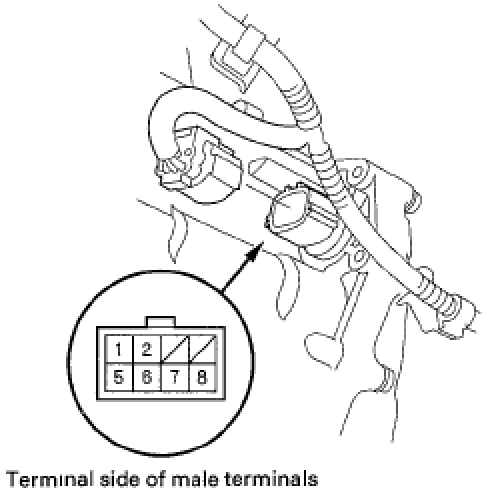

**Fig. 212: Identifying Shift Solenoid Harness Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the ATF temperature sensor resistance between shift solenoid harness connector terminals No. 6 and No. 7.

   **Standard: 50 ohms-25 kohms**

5. If the resistance is out of standard, go to step 6, and replace the ATF temperature sensor and solenoid harness. The ATF temperature sensor is not available separately from the shift solenoid harness.

   If the resistance is within the standard, the test is complete, connect the connector securely, and install the splash shield.

6. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

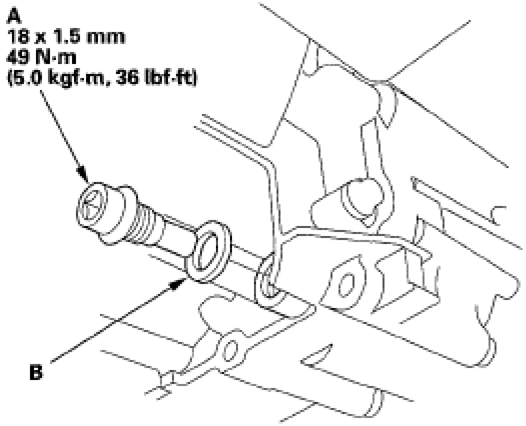
A
18 x 1.5 mm
49 N·m
(5.0 kgf·m, 36 lbf·ft)
B

**Fig. 213: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Reinstall the drain plug with a new sealing washer (B).
8. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

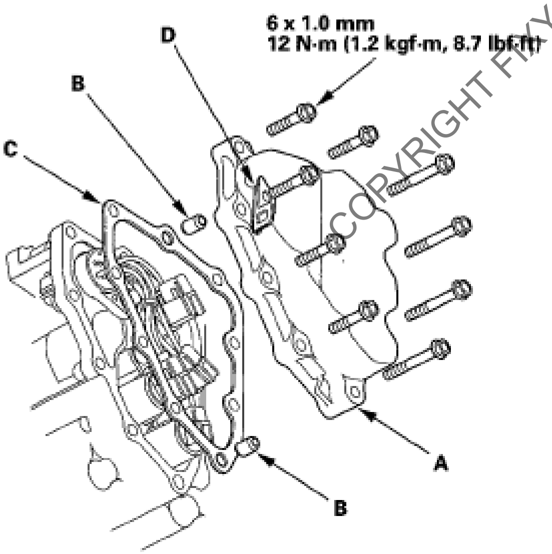
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
D
B
C
A
B

**Fig. 214: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the shift solenoid harness connector (E), and replace it.

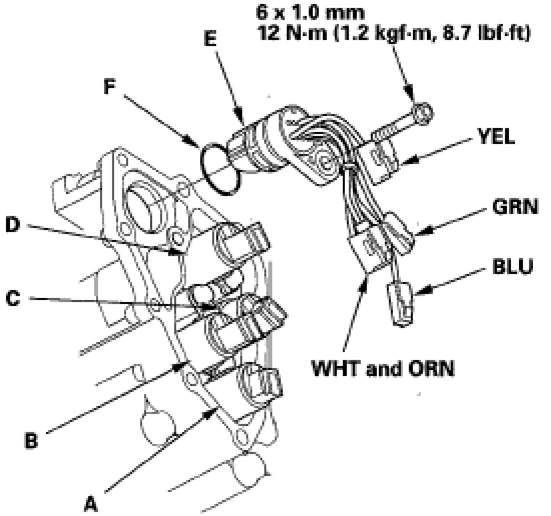

**Fig. 215: Identifying Shift Solenoid Harness Connector, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install a new O-ring (F) on a new shift solenoid harness connector, and install the connector in the transmission housing.
11. Connect WHT harnesses and ORN harness connector to shift solenoid valve B. ATF temperature sensor is assembled in the connector with WHT harnesses.
12. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
13. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
14. Check the connector for rust, dirt, or oil, then connect the connector securely.
15. Refill the transmission with ATF (see step 5 ).
16. Install the splash shield.

### ATF LEVEL CHECK

**NOTE: Keep all foreign particles out of the transmission.**

1. Park the vehicle on the level ground.

2. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and turn the engine off. Do not allow the engine to warm up more than two cycles of the cooling fan.

   **NOTE: Check the fluid level within 60-90 seconds after turning the engine off. Higher fluid level may be indicated if the radiator fan comes on twice or more.**

3. Remove the dipstick (yellow loop) (A), and wipe it with a clean cloth.

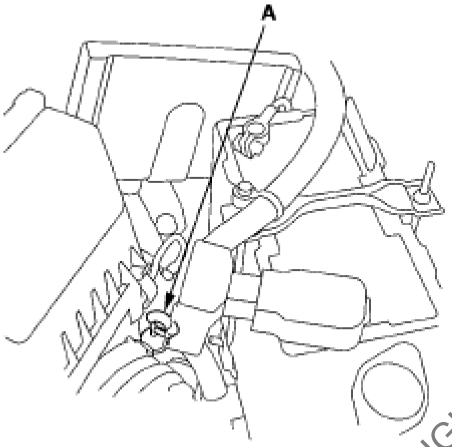

**Fig. 216: Identifying Dipstick (Yellow Loop)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Insert the dipstick into the transmission.
5. Remove the dipstick and check the fluid level. It should be between the upper mark (A) and the lower mark (B).

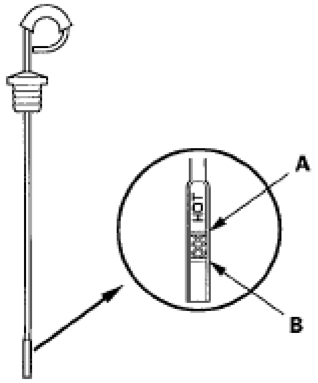

**Fig. 217: Identifying Upper Mark And Lower Mark On Dipstick**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the level is below the lower mark, check for fluid leaks at the transmission, the hoses, and the line joints. If a problem is found, fix it before filling the transmission with ATF.

   **NOTE: If the vehicle is driven when the ATF level is below the lower mark:**

   - **Transmission damage will result.**
   - **The vehicle might not move in any gear.**
   - **The vehicle may accelerate poorly, and flare when starting off in D and R.**
   - **The engine may vibrate at idle.**

7. If the level is above the upper mark, drain the ATF to proper level (see step 3 ).

   **NOTE: If the vehicle is driven when the ATF level is above the upper mark, the vehicle may creep forward while in N, or have problems shifting.**

8. If necessary, fill the transmission with ATF through the dipstick hole (A) to bring the fluid level between the upper mark and the lower mark of the dipstick. Do not fill the fluid above the upper mark. Always use genuine Honda ATF-Z1 automatic transmission fluid (ATF). Using a non-Honda ATF can affect shift quality.

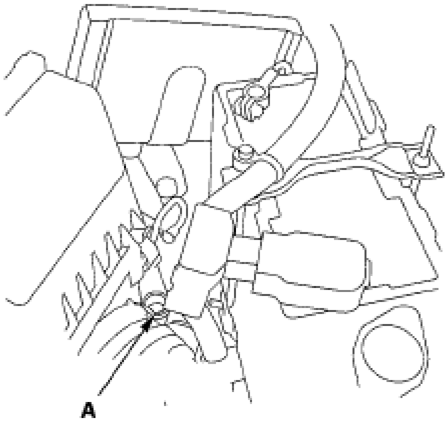

**Fig. 218: Identifying Dipstick Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Insert the dipstick back into the transmission.

**ATF REPLACEMENT**

**NOTE: Keep all foreign particles out of the transmission.**

1. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
2. Park the vehicle on the level ground, and turn the engine off.
3. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

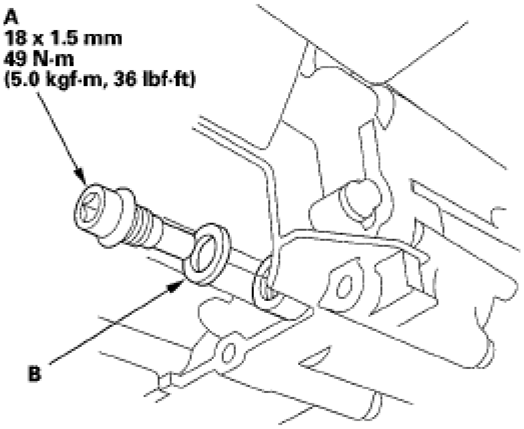

**Fig. 219: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Reinstall the drain plug with a new sealing washer (B).
5. Refill the transmission with the recommended fluid into the dipstick hole to bring the fluid level between the upper mark and the lower mark of the dipstick. Always use Honda ATF-Z1 automatic transmission fluid (ATF). Using a non-Honda ATF can affect shift quality.

   **Automatic Transmission Fluid Capacity:**

   **2.4 L (2.5 US qt, 2.1 Imp qt) at change**

   **5.9 L (6.2 US qt, 5.2 Imp qt) at overhaul**

6. Check that the fluid level is between the upper mark and the lower mark of the dipstick.
7. Insert the dipstick back into the transmission.
8. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

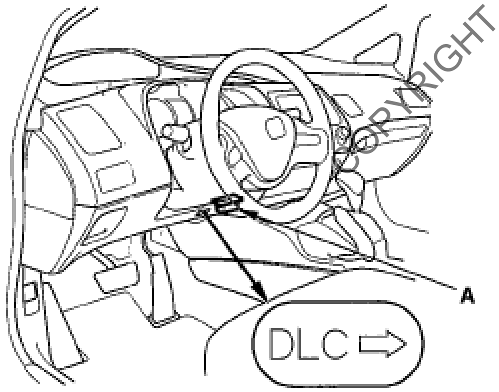

**Fig. 220: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
10. Turn the ignition switch to ON (II), and reset the ATF life with the HDS.
11. '06 4-door model and '07-08 2 and 4 door models: If the maintenance minder recommends replacing the ATF, reset the maintenance minder (see

**RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), and this procedure is complete. If the maintenance minder did not recommend replacing the ATF, go to step 12.

'06 2-door model: If the maintenance minder recommends replacing the ATF, reset the maintenance minder (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), and this procedure is complete. If the maintenance minder did not recommend replacing the ATF, notify the customer that the maintenance minder service interval has not been reached and the maintenance minder will still be on the same interval as before.

12. Select BODY ELECTRICAL with the HDS.
13. Select ADJUSTMENT in the GAUGES MENU with the HDS.
14. Select RESET in the MAINTENANCE MINDER with the HDS.
15. Select RESETTING THE ATF with the HDS.

**NOTE: If you changed the engine oil at the same time with the ATF, select RESETTING THE ENGINE OIL LIFE AND ATF with the HDS instead.**

### TRANSMISSION REMOVAL

### Special Tools Required

- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *
- Front subframe adapter VSB02C000016 *
- * These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857.

**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**
- **Special tool engine hanger must be used with the side engine mount installed.**

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Remove the cowl cover (see **COWL COVER REPLACEMENT** ) and the under-cowl panel.
3. Remove the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
4. Make sure the ignition switch is in LOCK (0).

   Disconnect the negative cable from the battery, then disconnect the positive cable.

5. Remove the battery hold-down bracket, and remove the battery and the battery tray.
6. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
7. Remove the battery base and the resonator.
8. Raise the vehicle on a lift, make sure it is securely supported, and remove the wheels.
9. Remove the splash shield (see step 23 on **ENGINE REMOVAL** ).
10. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

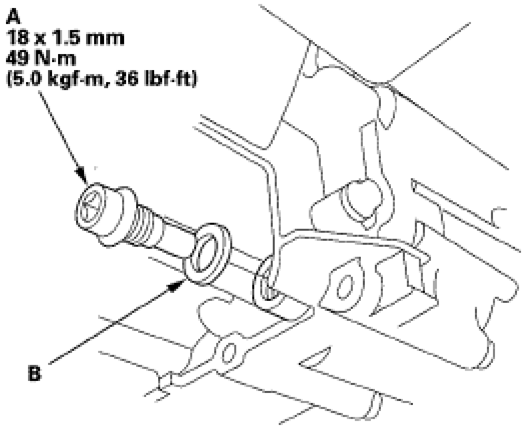

**Fig. 221: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Reinstall the drain plug with a new sealing washer (B).

12. Secure the hood in the vertical position.
13. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

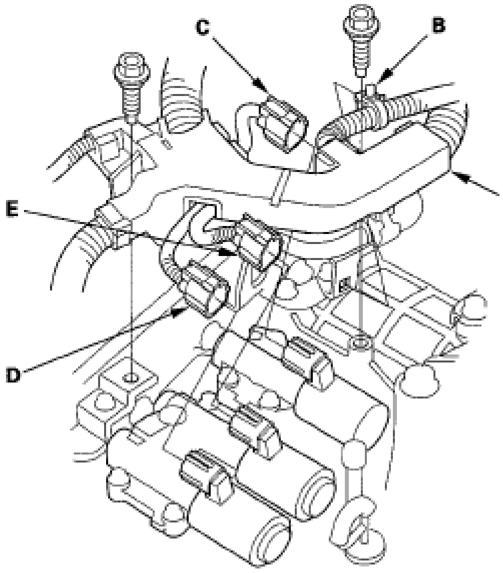

**Fig. 222: Identifying Harness Cover And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect the A/T clutch pressure control solenoid valve A connector (C), the A/T clutch pressure control solenoid valve B connector (D), and the A/T clutch pressure control solenoid valve C connector (E).
15. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing mounting bracket (B).

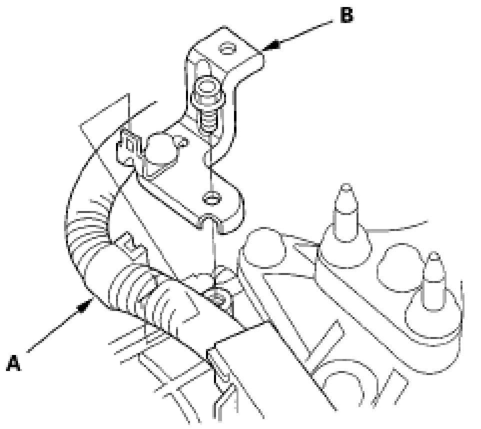

**Fig. 223: Identifying Air Cleaner Housing Mounting Bracket And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the transmission range switch connector (A).

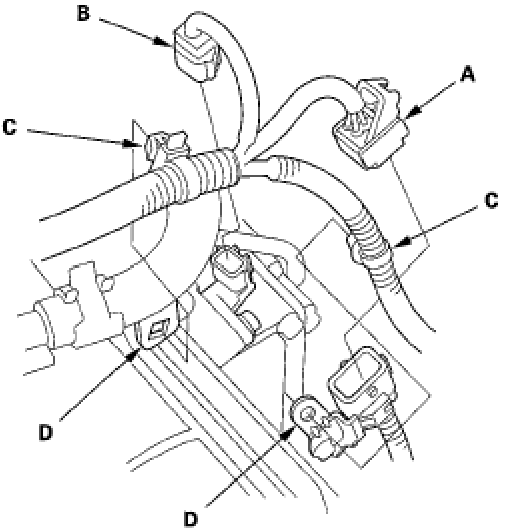

**Fig. 224: Identifying Transmission Range Switch Connector, Output Shaft (Countershaft) Speed Sensor Connector And Harness Clamps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Disconnect the output shaft (countershaft) speed sensor connector (B), and remove the harness clamps (C) from the clamp brackets (D).
18. Disconnect the input shaft (mainshaft) speed sensor connector (A) and the 2nd clutch transmission fluid pressure switch connector (B).

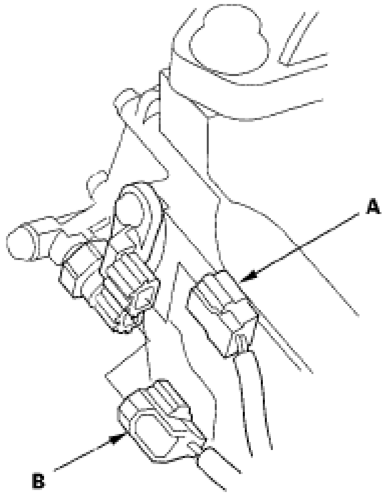

**Fig. 225: Identifying Input Shaft (Mainshaft) Speed Sensor And 2nd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Disconnect the ATF warmer hoses (A) from the ATF lines (B). Turn the end of the ATF warmer hoses up to prevent ATF from flowing out, then plug the hoses and lines.

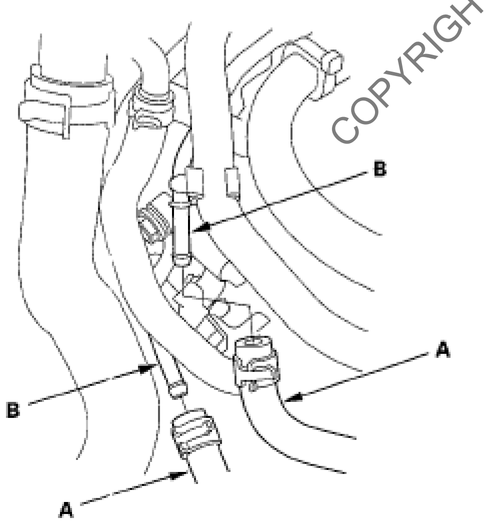

**Fig. 226: Identifying ATF Warmer Hoses And ATF Lines**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Remove the bolts securing the ATF warmer. Do not disconnect the ATF hoses and water by-pass hoses from the ATF warmer.

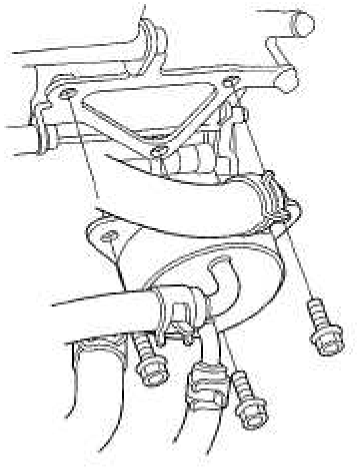

**Fig. 227: Identifying ATF Hoses And Water By-Pass Hoses With Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Disconnect the shift solenoid harness connector (A) and the 3rd clutch transmission fluid pressure switch connector (B), and remove the harness clamps (C) from the clamp brackets (D).

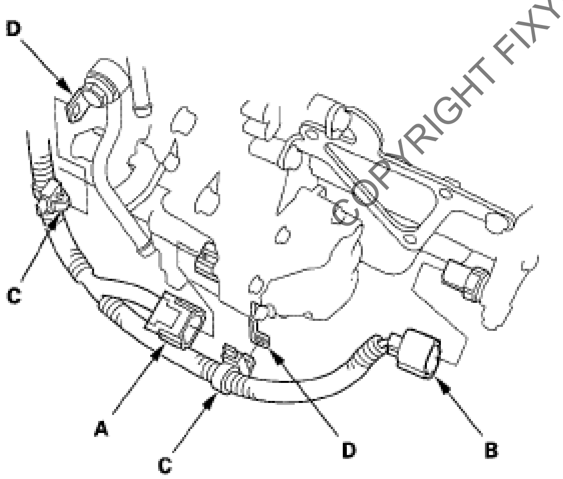

**Fig. 228: Identifying Shift Solenoid Harness Connector And 3rd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Remove the harness clamp (A) from its bracket (B), and remove the radiator hose (C) from the clamp (D).

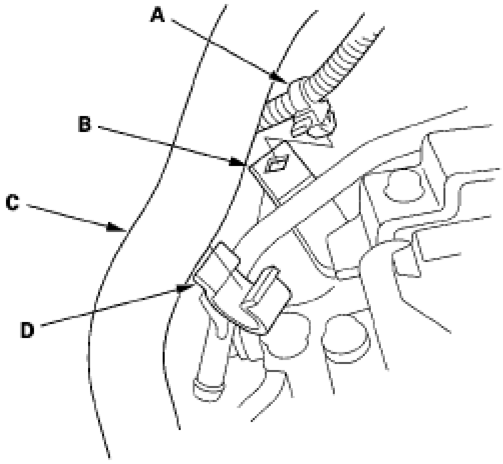

**Fig. 229: Identifying Harness Clamp, Bracket, Radiator Hose And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Remove the air cleaner housing mounting bracket (A).

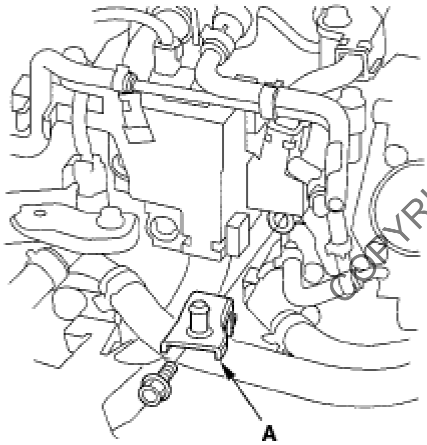

**Fig. 230: Identifying Air Cleaner Housing Mounting Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the support eyelet behind the breather pipe (A) and down to the threaded hole (B) on the cylinder head.

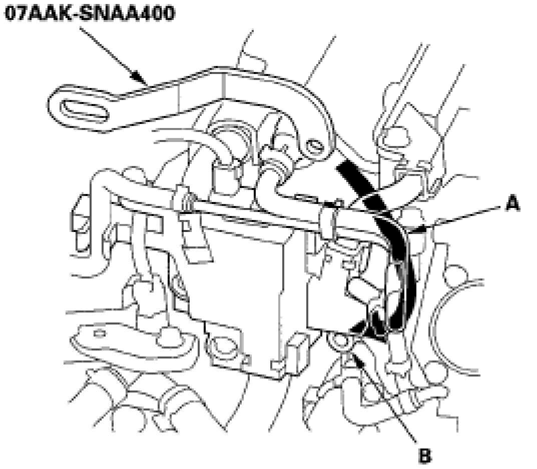

**Fig. 231: Identifying Breather Pipe And Threaded Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Attach the support eyelet to the cylinder head with the support bolt. Tighten the bolt by hand.

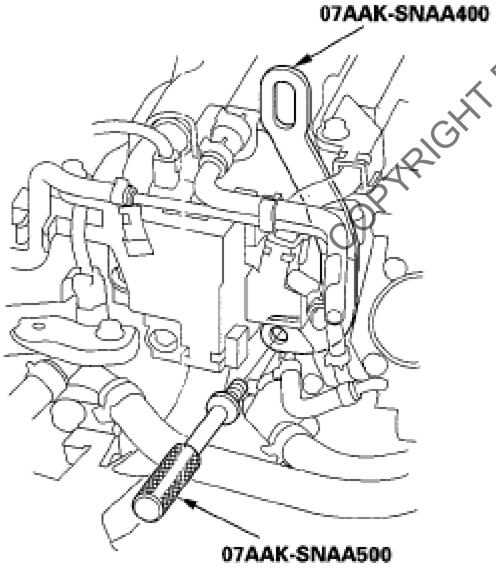

**Fig. 232: Identifying Support Eyelet And Support Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger (VSB02C000025). Carefully position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing

nut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

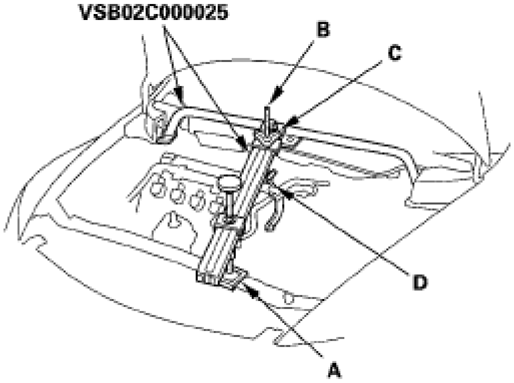

**Fig. 233: Identifying Engine Support Hanger On Vehicle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Remove the nuts and bolt securing the lower arm and ball joint, and separate the lower arms from the ball joints.

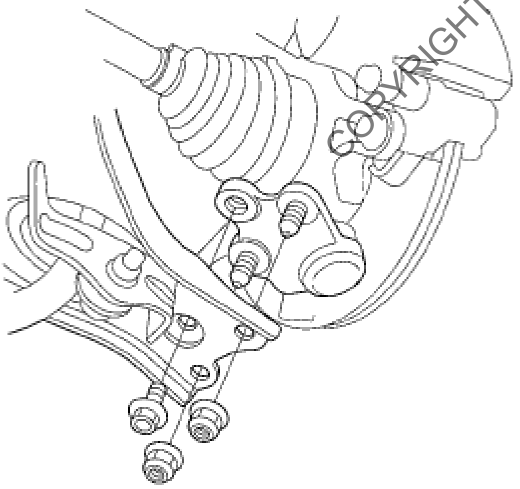

**Fig. 234: Identifying Lower Arms From Ball Joints**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Remove both body mount brackets.

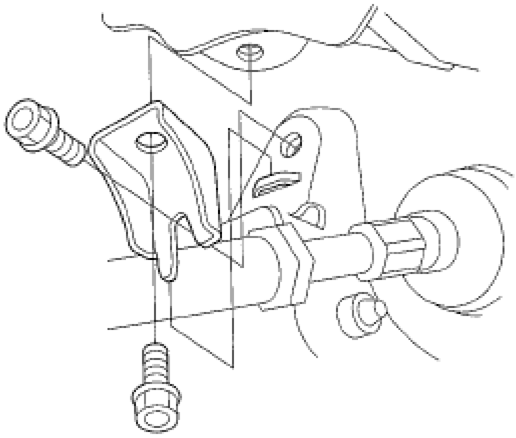

**Fig. 235: Identifying Body Mount Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Remove the steering gearbox mounting bracket bolts.

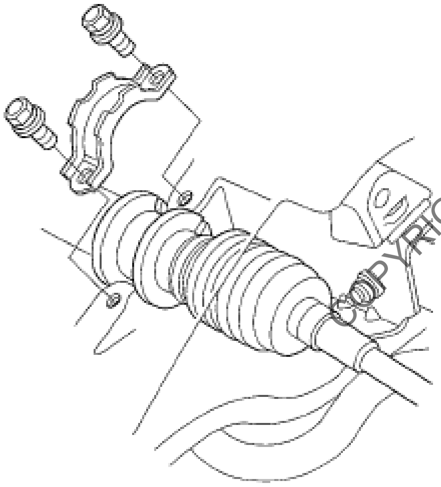

**Fig. 236: Identifying Steering Gearbox Mounting Bracket Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Remove the rear steering gearbox mounting bolt (A), the stiffener mounting bolt (B), and the stiffener (C).

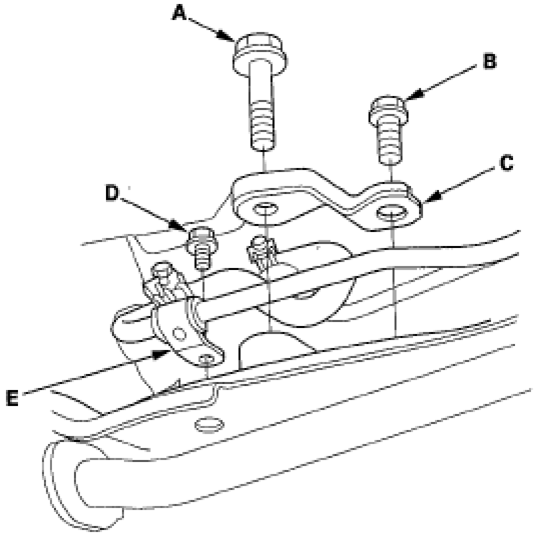

**Fig. 237: Identifying Rear Steering Gearbox Mounting Bolt, Stiffener Mounting Bolt And Stiffener**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Remove the bolt (D) securing the power steering fluid line clamp bracket (E).
32. Remove the front steering gearbox mounting bolt (A), the stiffener mounting bolt (B), and the stiffener (C).

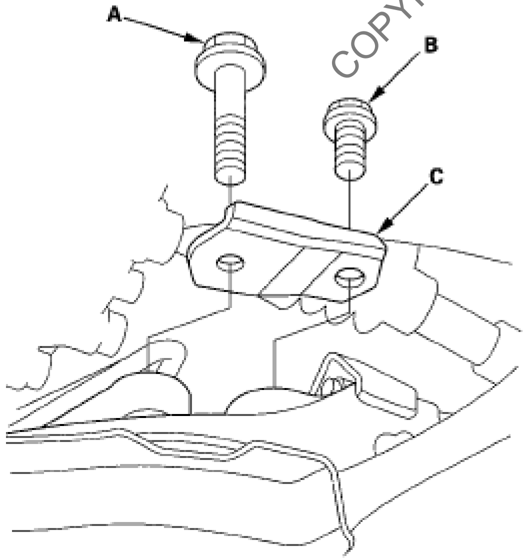

**Fig. 238: Identifying Front Steering Gearbox Mounting Bolt, Stiffener Mounting Bolt And Stiffener**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Remove the bolt (A) securing the power steering fluid line bracket (B) on the right of the front subframe, and remove the power steering fluid line (C) from the clamp (D).

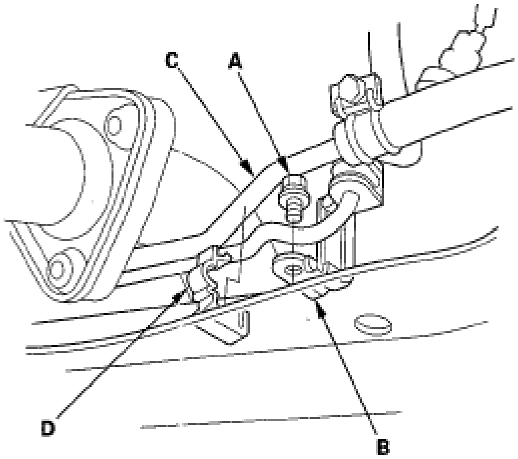

**Fig. 239: Identifying Power Steering Fluid Line Bracket, Power Steering Fluid Line And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Remove the lower torque rod bolts.

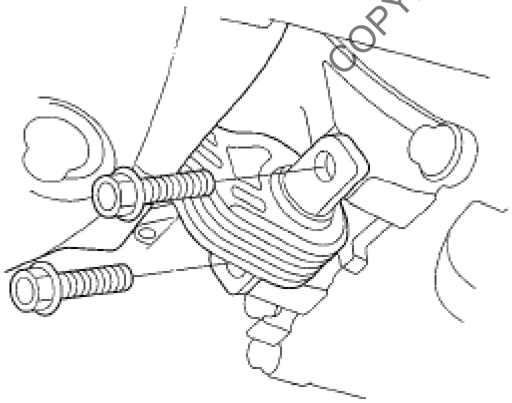

**Fig. 240: Identifying Lower Torque Rod Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Make reference marks (A) on both sides of the front subframe that line up with the body (B).

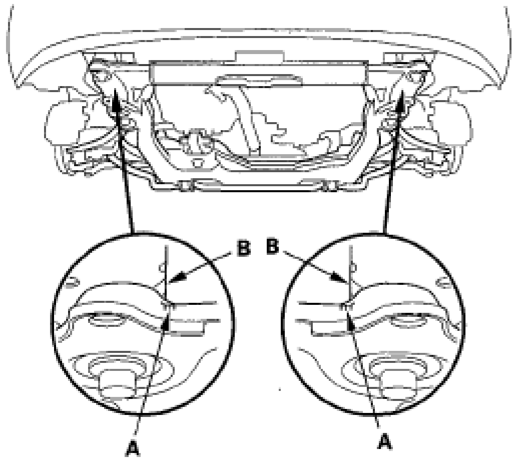

**Fig. 241: Identifying Reference Marks On Both Sides Of Front Subframe Line Up With Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Attach the front subframe adapter (VSB02C000016) to the front subframe by looping the strap (A) over the front of the subframe, then secure the strap with the stop (B), then tighten the wing nut (C).

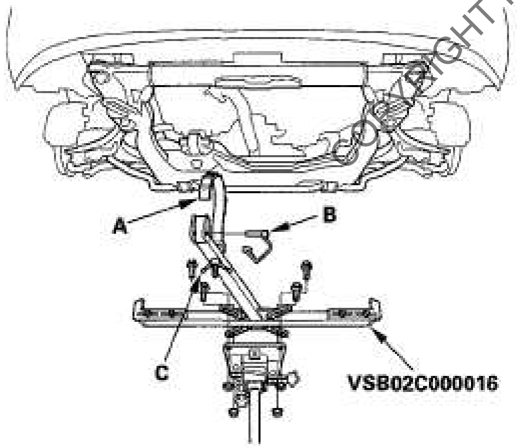

**Fig. 242: Attaching Front Subframe Adapter (VSB02C000016) To Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then tighten the bolts.
38. Remove the four bolts securing the front subframe, and lower the front

subframe.

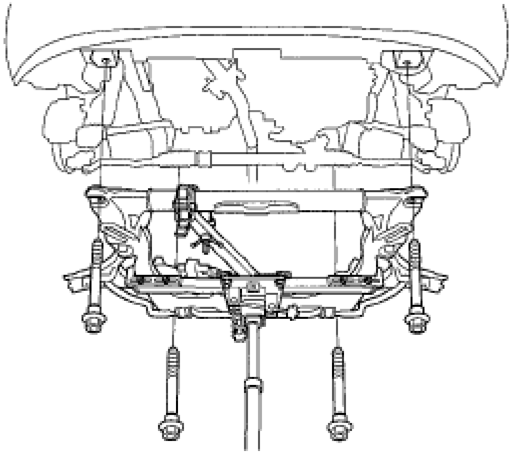

**Fig. 243: Lifting Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Hang the steering gearbox to the body with a rope.
40. Remove the driveshafts from the differential. Coat all precision machined surfaces with clean engine oil, then put plastic bags over the driveshaft ends.

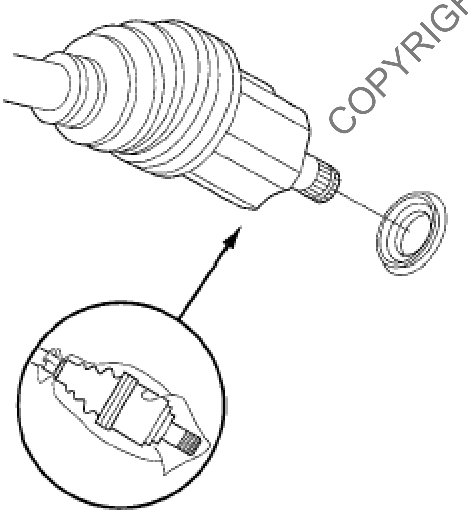

**Fig. 244: Identifying Driveshafts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Remove the shift cable cover (A), and remove the three bolts securing the shift cable holder (B).

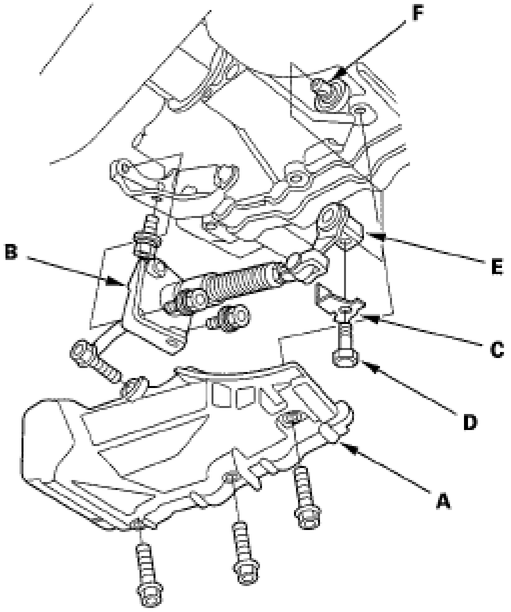

**Fig. 245: Identifying Shift Cable Cover And Shift Cable Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Pry up the lock tab of the lock washer (C), and remove the lock bolt (D) and the lock washer, then separate the shift cable (E) from the control shaft (F). Do not bend the shift cable excessively.
43. Remove the shift cable holder bracket from the transmission.

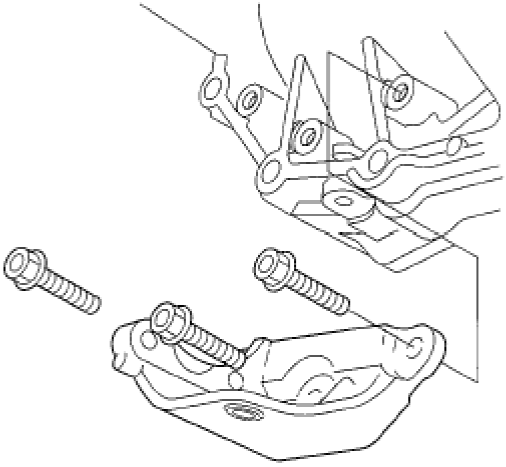

**Fig. 246: Identifying Shift Cable Holder Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Remove the torque converter cover (A), and remove the drive plate bolts (B)

(8) while rotating the crankshaft pulley.

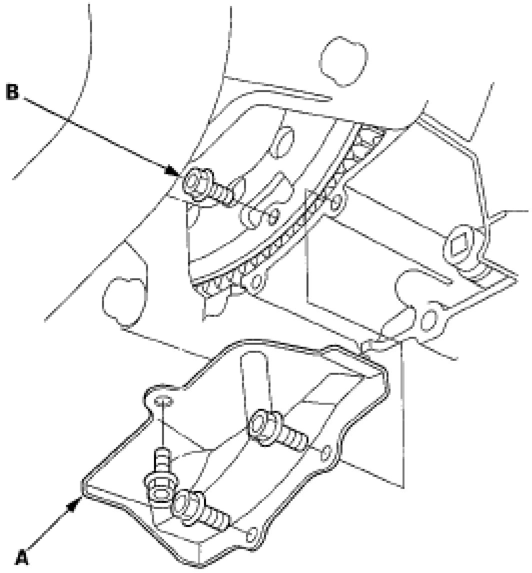

**Fig. 247: Identifying Torque Converter Cover And Drive Plate Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Remove the upper transmission housing mounting bolts.

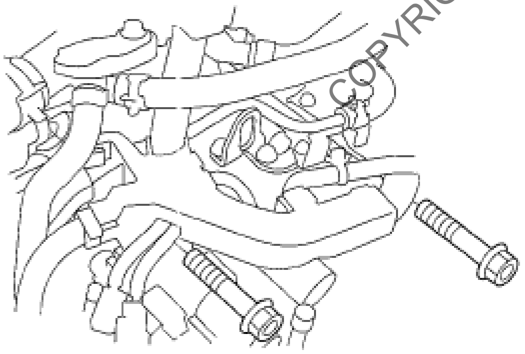

**Fig. 248: Identifying Upper Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

46. Remove the transmission mount bracket bolts.

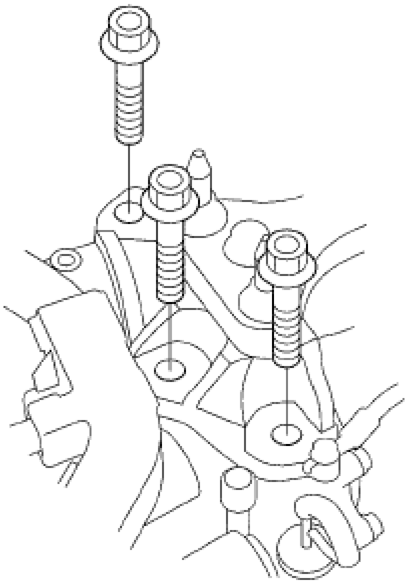

**Fig. 249: Identifying Transmission Mount Bracket Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Remove the front transmission housing mounting bolts.

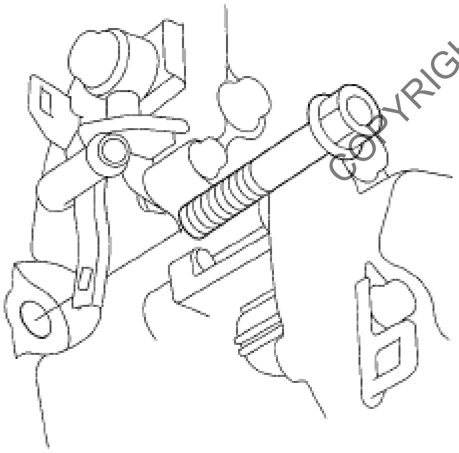

**Fig. 250: Identifying Front Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Remove the rear transmission housing mounting bolts.

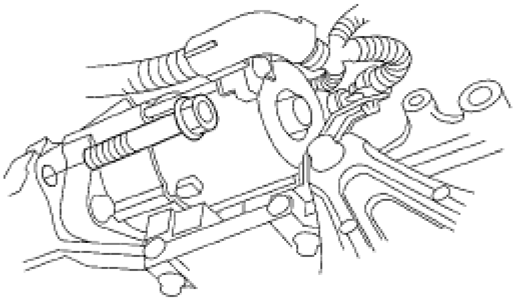

**Fig. 251: Identifying Rear Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Lower the transmission by loosening the wing nut of the engine support hanger, and tilt the engine just enough for the transmission to clear the side frame.
50. Place a jack under the transmission.
51. Remove the lower transmission housing mounting bolts.

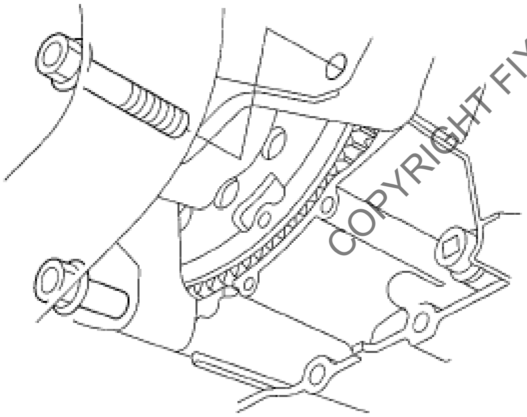

**Fig. 252: Identifying Lower Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

52. Slide the transmission away from the engine to remove it from the vehicle.
53. Remove the torque converter, the O-ring, and the dowel pins.

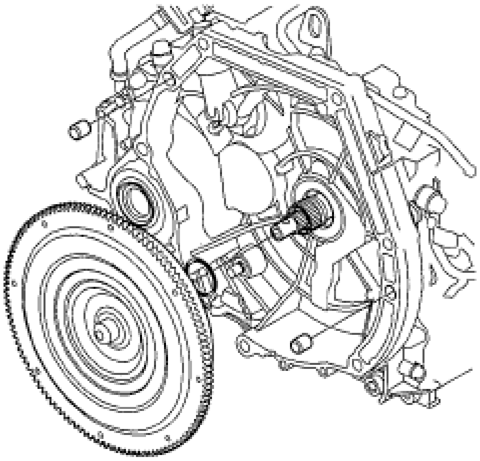

**Fig. 253: Identifying Torque Converter, O-Ring And Dowel Pins**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

54. Inspect the drive plate, and replace it if it is damaged.

### TRANSMISSION INSTALLATION

## Special Tools Required

- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *
- Front subframe adapter VSB02C000016 *

* These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857.

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Install the torque converter (A) on the mainshaft (B) with a new O-ring (C).

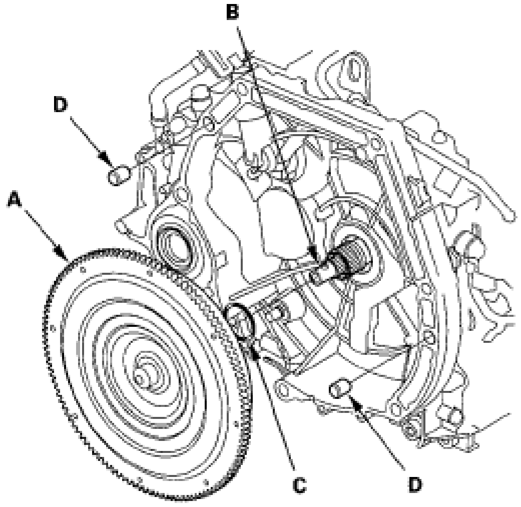

**Fig. 254: Identifying Torque Converter On Mainshaft With O-Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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2. Install the 14 x 20 mm dowel pins (D) in the torque converter housing.
3. Place the transmission on a jack, and raise the transmission to the engine level.
4. Install the lower transmission housing mounting bolt (A) part-way in the bolt hole on the engine, then attach the transmission to the engine.

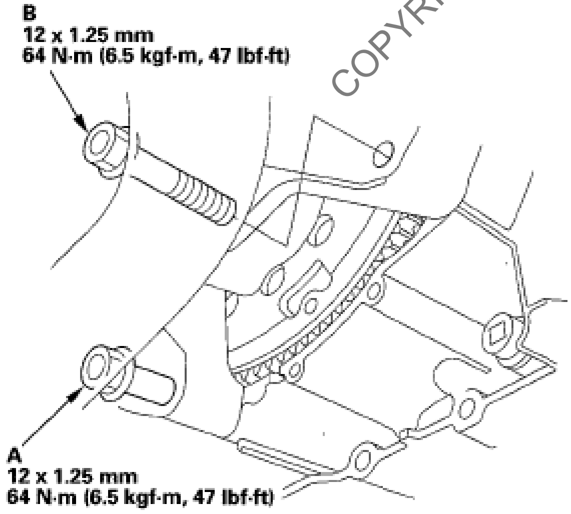


**Fig. 255: Identifying Lower Transmission Housing Mounting Bolt w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the lower transmission housing mounting bolt (B), and tighten the bolts.

6. Install the rear transmission housing mounting bolts.

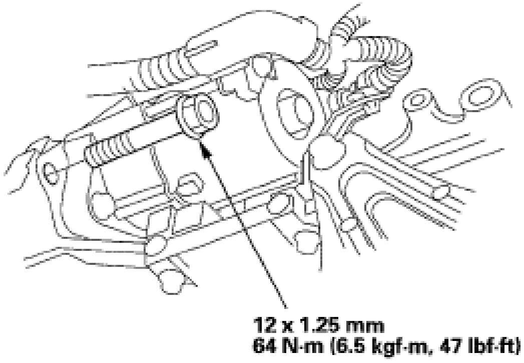

12 x 1.25 mm
64 N·m (6.5 kgf·m, 47 lbf·ft)

**Fig. 256: Identifying Rear Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the front transmission housing mounting bolts.

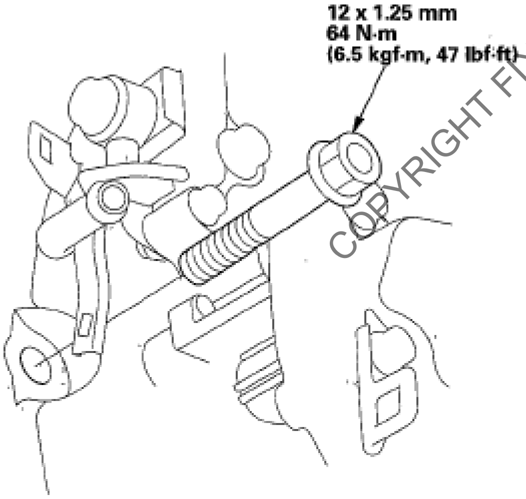

12 x 1.25 mm
64 N·m
(6.5 kgf·m, 47 lbf·ft)

**Fig. 257: Identifying Front Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the upper transmission housing mounting bolts.

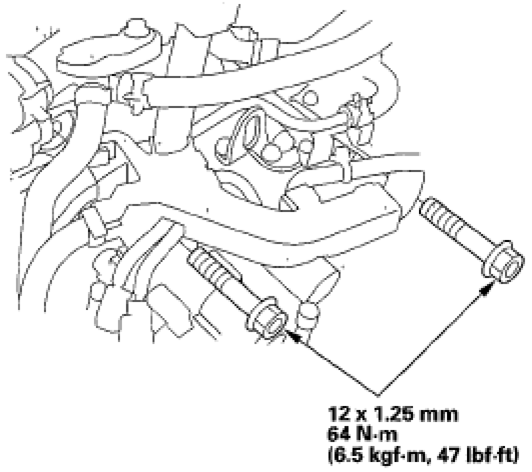

12 x 1.25 mm
64 N·m
(6.5 kgf·m, 47 lbf·ft)

**Fig. 258: Identifying Upper Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Secure the transmission mount bracket on the transmission housing with new mounting bolts.

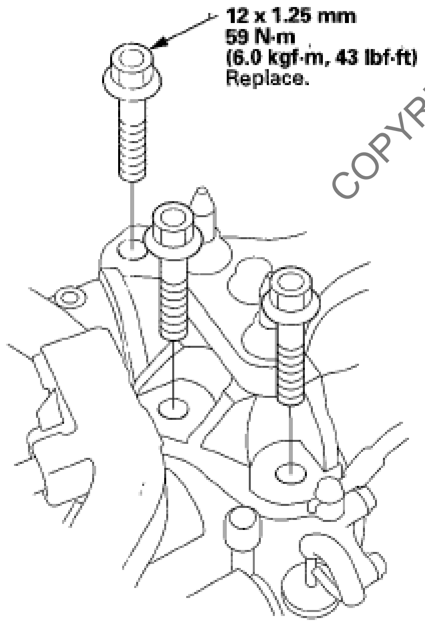

12 x 1.25 mm
59 N·m
(6.0 kgf·m, 43 lbf·ft)
Replace.

**Fig. 259: Identifying Transmission Mount Bracket & Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install a new set ring (A) on both driveshafts (B).

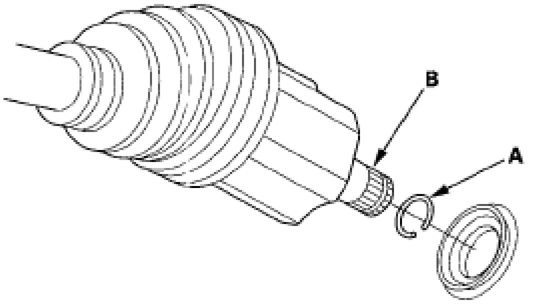


**Fig. 260: Identifying Set Ring On Driveshafts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Clean the areas where the driveshaft contacts the transmission (differential) with solvent, and dry with compressed air. Then install the driveshaft, be sure not to allow dust or other foreign particles to enter the transmission. Turn the steering knuckle fully outward, and slide the driveshaft into the differential until you feel its set ring fully engage the side gear.
12. Attach the torque converter to the drive plate with the eight bolts (A). Rotate the crankshaft pulley as necessary to tighten the bolts to 1/2 of the specified torque, then to the final torque, in a crisscross pattern. After tightening the last bolt, check that the crankshaft rotate freely.

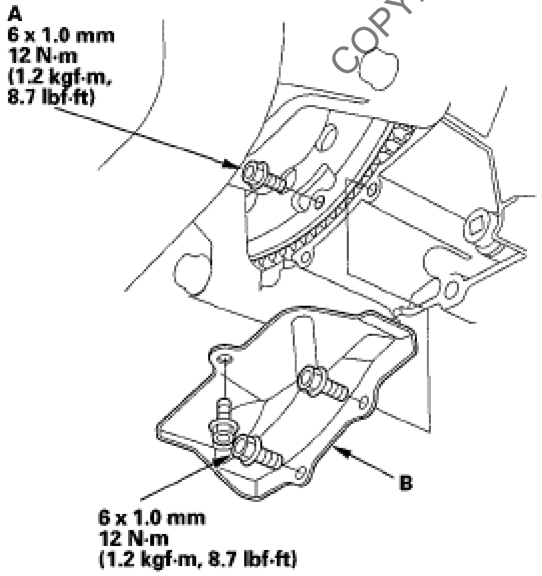


**Fig. 261: Identifying Torque Converter Cover And Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the torque converter cover.
14. Install the shift cable holder bracket.

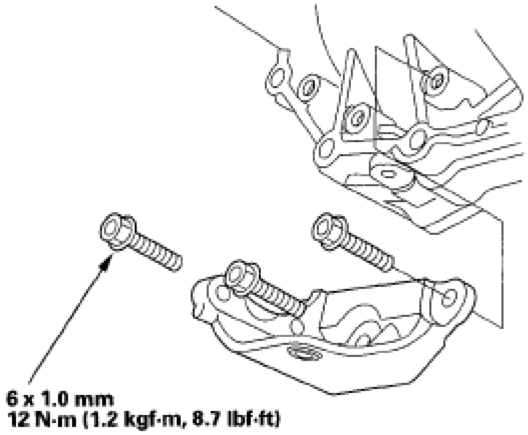

6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 262: Identifying Shift Cable Holder Bracket And Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the control lever (A) over the control shaft (B).

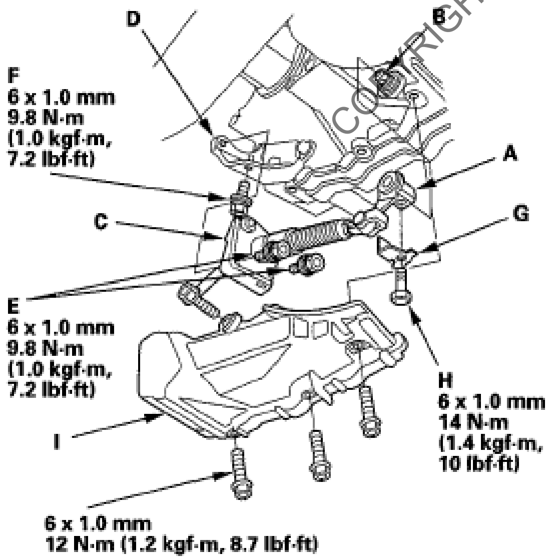

D
B
F
6 x 1.0 mm
9.8 N·m
(1.0 kgf·m,
7.2 lbf·ft)
A
C
G
E
6 x 1.0 mm
9.8 N·m
(1.0 kgf·m,
7.2 lbf·ft)
H
6 x 1.0 mm
14 N·m
(1.4 kgf·m,
10 lbf·ft)
I
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 263: Identifying Control Lever, Control Shaft, Shift Cable Holder & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the shift cable holder (C) on the holder bracket (D) with tightening bolts

loosely. Tighten the bolts (E) in the lateral position to the specified torque, then tighten the bolt (F) in the vertical position.

17. Secure the control lever with a new lock washer (G) and the lock bolt (H), then bend the lock tab of the lock washer against the bolt head.
18. Install the shift cable cover (I).
19. Set the front subframe adapter (VSB02C000016) to the front subframe by looping the strap (A) over the front of the front subframe, then secure the strap with the stop (B), then tighten the wing nut (C).

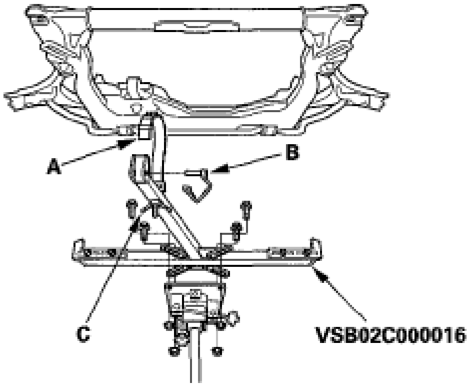


**Fig. 264: Setting Front Subframe Adapter (VSB02C000016) To Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Line up the slots in the arms with the bolt holes on the corner of the jack base, and tighten the bolts, then lift the front subframe up to the body.
21. Loosely install the new front subframe mounting bolts.

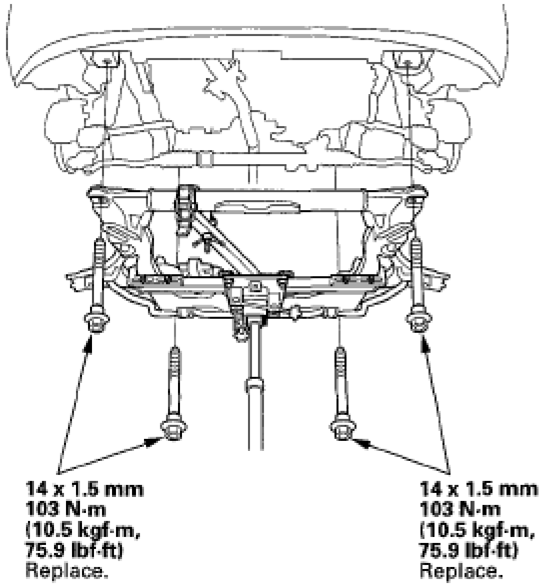

14 x 1.5 mm
103 N·m
(10.5 kgf·m,
75.9 lbf·ft)
Replace.
14 x 1.5 mm
103 N·m
(10.5 kgf·m,
75.9 lbf·ft)
Replace.

**Fig. 265: Lifting Front Subframe Up To Body, Bolts & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the front subframe mounting bolts to the specified torque.

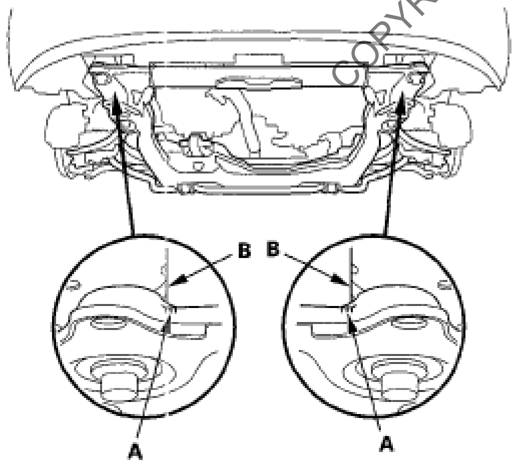


**Fig. 266: Aligning Front Subframe Reference Marks To Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Secure the lower torque rod with new bolts.

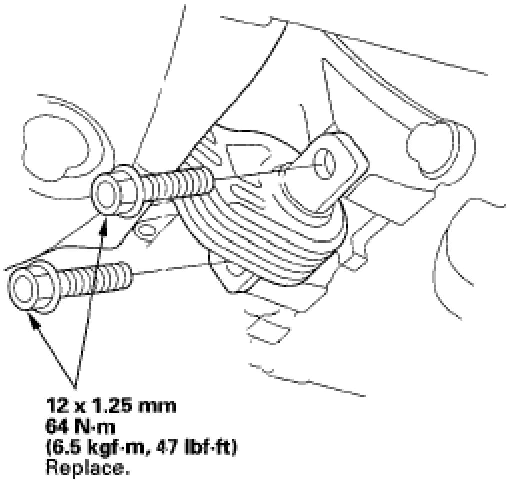

12 x 1.25 mm
64 N·m
(6.5 kgf·m, 47 lbf·ft)
Replace.

**Fig. 267: Identifying Lower Torque Rod, Bolts & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Remove the engine support hanger, support bolt, and support eyelet from the vehicle.
25. Position the steering gearbox on the gearbox mounting bracket of the front subframe.
26. Install the gearbox stiffener (A) and the bolts, and tighten the bolts loosely.

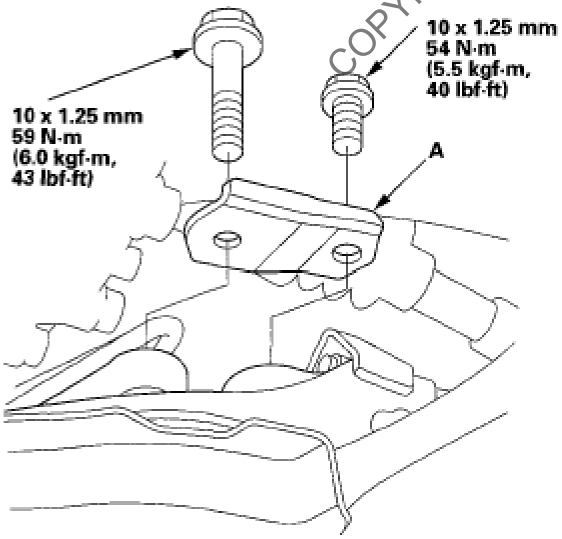

10 x 1.25 mm
54 N·m
(5.5 kgf·m,
40 lbf·ft)
10 x 1.25 mm
59 N·m
(6.0 kgf·m,
43 lbf·ft)
A

**Fig. 268: Identifying Gearbox Stiffener And Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Install the gearbox stiffener (A) and the bolts, and tighten the bolts loosely.

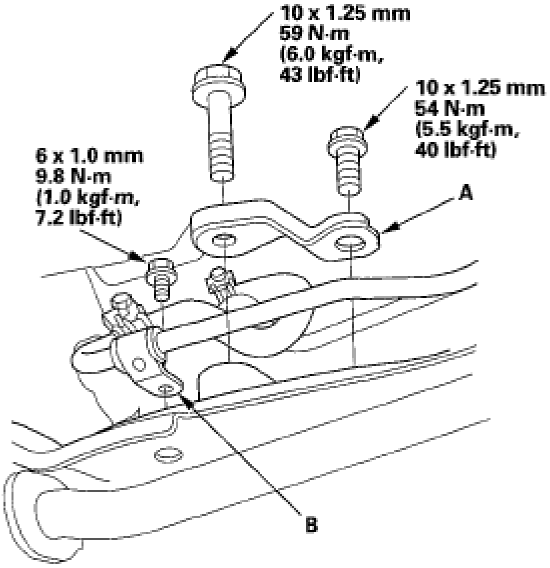

10 x 1.25 mm
59 N·m
(6.0 kgf·m,
43 lbf·ft)
10 x 1.25 mm
54 N·m
(5.5 kgf·m,
40 lbf·ft)
6 x 1.0 mm
9.8 N·m
(1.0 kgf·m,
7.2 lbf·ft)
A
B

**Fig. 269: Identifying Gearbox Stiffener, Power Steering Fluid Line Clamp Bracket, Bolts & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Secure the power steering fluid line clamp bracket (B) with the bolt.
29. Align the slit (A) of the gearbox mounting rubber (B) with the rear bracket surface (C), and install the steering gearbox mounting bracket (D) with pointing the arrow (E) up.

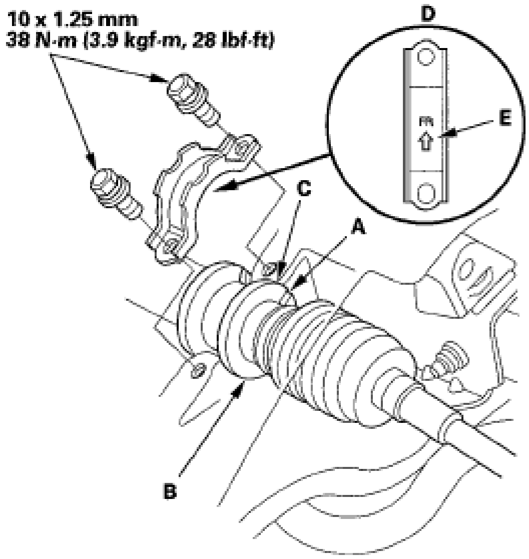

10 x 1.25 mm
38 N·m (3.9 kgf·m, 28 lbf·ft)
D
E
FR
C
A
B

**Fig. 270: Aligning Slit Of Gearbox Mounting Rubber, Rear Bracket**

**Surface, And Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Tighten the steering gearbox mounting bolts and the stiffener mounting bolts to the specified torque.
31. Secure the power steering fluid line bracket (A) with the bolt, and secure the line (B) with the clamp (C).

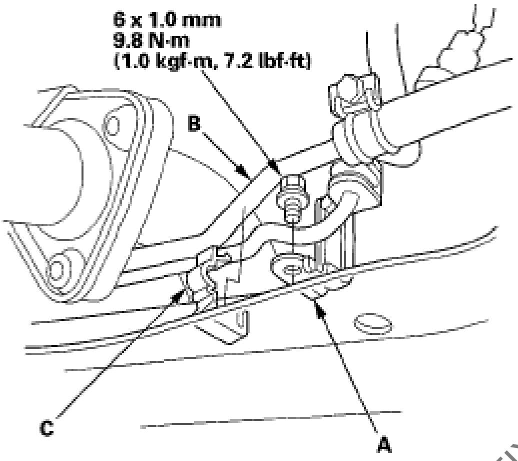

6 x 1.0 mm
9.8 N·m
(1.0 kgf·m, 7.2 lbf·ft)
B
C
A

**Fig. 271: Identifying Power Steering Fluid Line Bracket With Line, Clamp, Bolts & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Install both body mount brackets with new bolts.

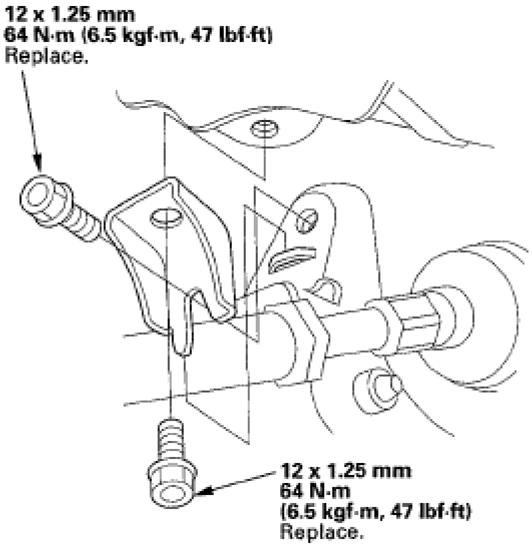

12 x 1.25 mm
64 N·m (6.5 kgf·m, 47 lbf·ft)
Replace.
12 x 1.25 mm
64 N·m
(6.5 kgf·m, 47 lbf·ft)
Replace.

**Fig. 272: Identifying Body Mount Brackets & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Install both of the lower arms (A) to the ball joints (B), and loosely install new mounting nuts and bolts.

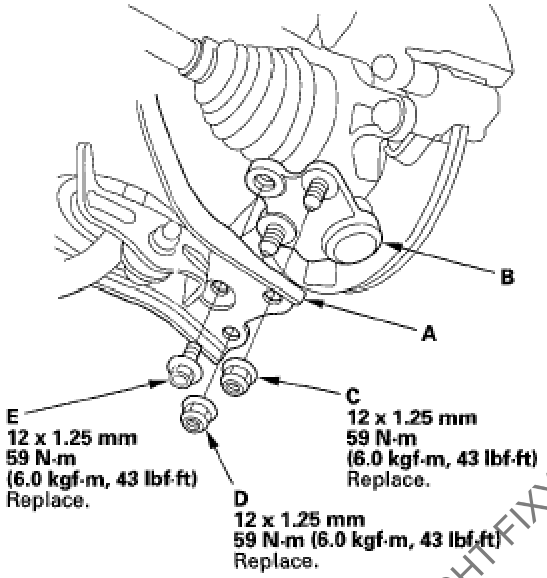

B
A
E
12 x 1.25 mm
59 N·m
(6.0 kgf·m, 43 lbf·ft)
Replace.
C
12 x 1.25 mm
59 N·m
(6.0 kgf·m, 43 lbf·ft)
Replace.
D
12 x 1.25 mm
59 N·m (6.0 kgf·m, 43 lbf·ft)
Replace.

**Fig. 273: Identifying Lower Arms, Ball Joints & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Tighten the nuts and the bolts to 59 N.m (6.0 kgf.m, 43 lbf.ft) in the following order; (C), (D), then (E).
35. Remove the support bolt and support eyelet from the cylinder head.

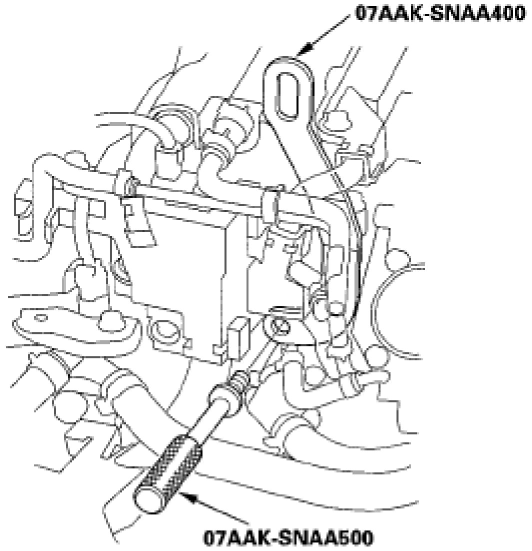


**Fig. 274: Identifying Support Bolt And Support Eyelet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Install the air cleaner housing mounting bracket (A) on the cylinder head.

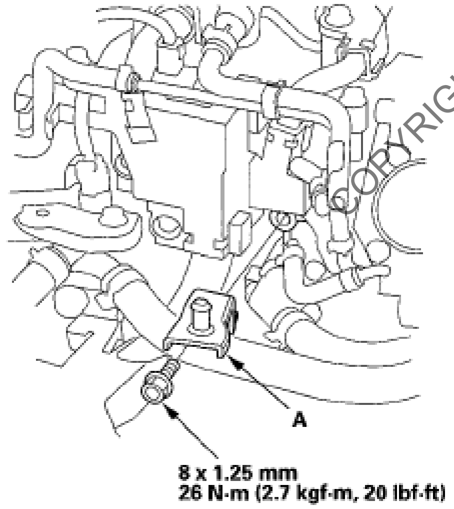


**Fig. 275: Identifying Air Cleaner Housing Mounting Bracket & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Connect the shift solenoid harness connector (A) and the 3rd clutch transmission fluid pressure switch connector (B), and install the harness clamps (C) on the clamp brackets (D).

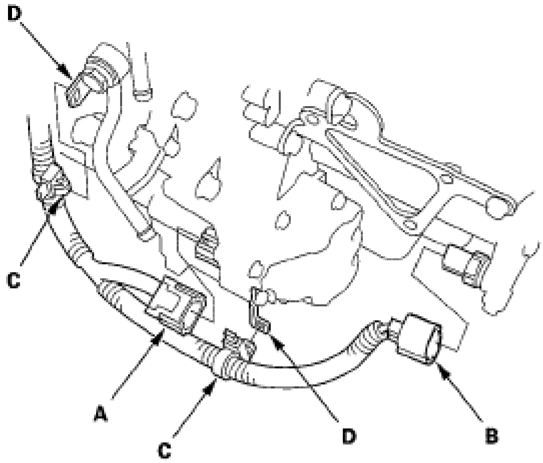


**Fig. 276: Identifying Shift Solenoid Connector, 3rd Clutch Transmission Fluid Pressure Switch Connector, Clamps And Clamp Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

38. Install the harness clamp (A) in its bracket (B), and install the radiator hose (C) in the clamp (D).

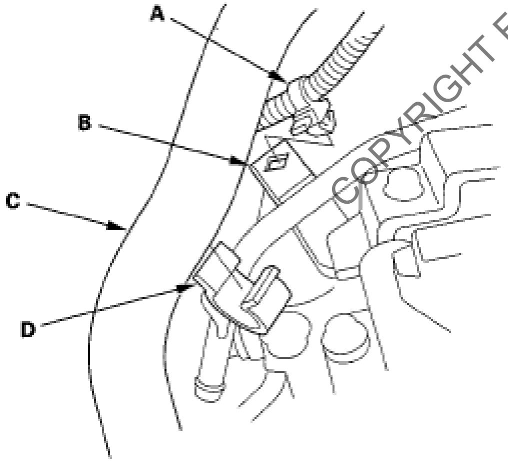


**Fig. 277: Identifying Harness Clamp, Bracket, Radiator Hose And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Install the ATF warmer (A) on the bracket (B).

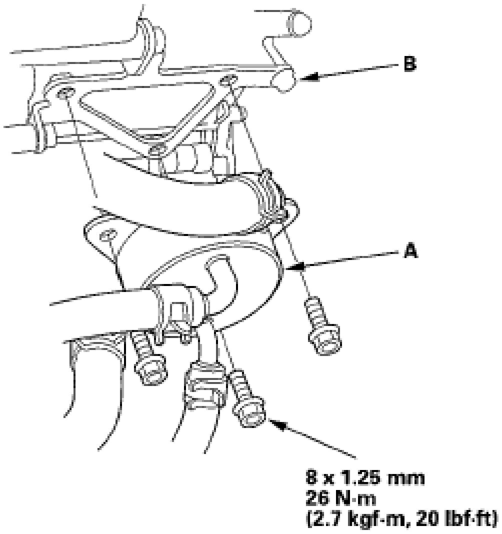


**Fig. 278: Identifying ATF Warmer, Bracket & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

40. Connect the ATF warmer hoses (A) to the ATF lines (B), and secure the hoses with the clips (C) (see **DRIVE PLATE REMOVAL AND INSTALLATION** ).

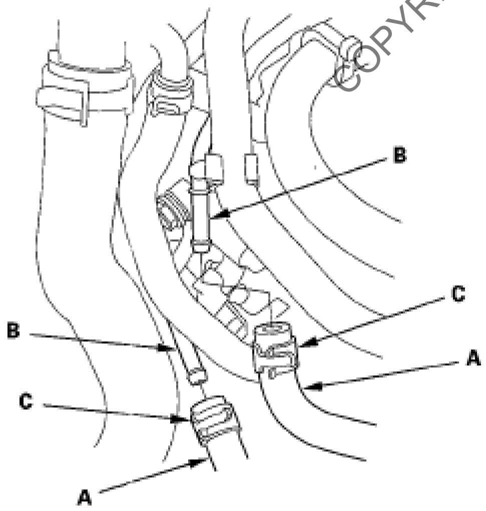


**Fig. 279: Identifying ATF Warmer Hoses, ATF Lines, Hoses And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Connect the input shaft (mainshaft) speed sensor connector (A) and the 2nd clutch transmission fluid pressure switch connector (B).

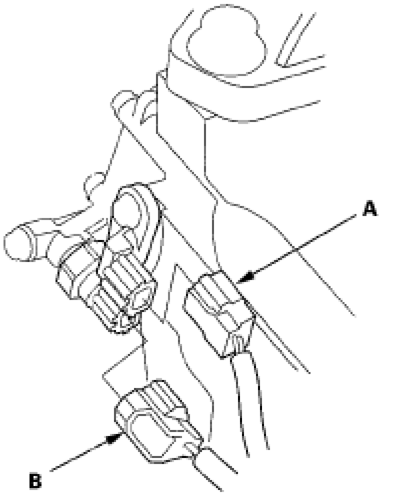


**Fig. 280: Identifying Input Shaft (Mainshaft) Speed Sensor Connector And 2nd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Connect the transmission range switch connector (A) and the output shaft (countershaft) speed sensor connector (B), and install the harness clamps (C) on the brackets (D).

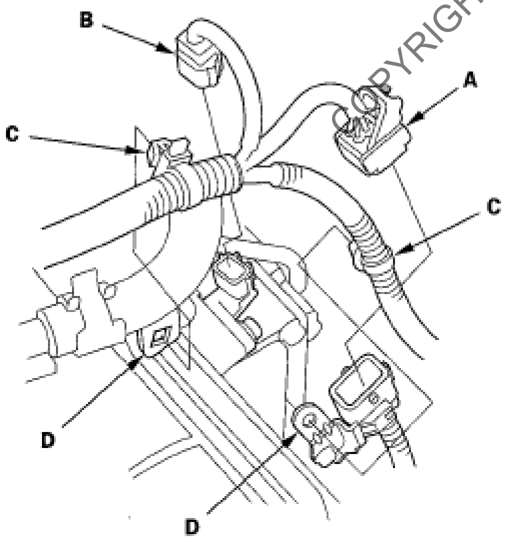


**Fig. 281: Identifying Transmission Range Switch Connector And Output Shaft (Countershaft) Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

43. Install the air cleaner housing mounting bracket (A), and install the harness

clamp (B) on its bracket (C).

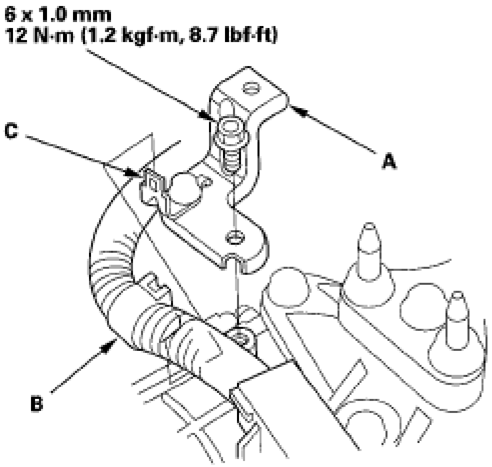

6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
C
A
B

**Fig. 282: Identifying Air Cleaner Housing Mounting Bracket w/Torque Specification And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Connect the A/T clutch pressure control solenoid valve A connector (A), the A/T clutch pressure control solenoid valve B connector (B), and the A/T clutch pressure control solenoid valve C connector (C).

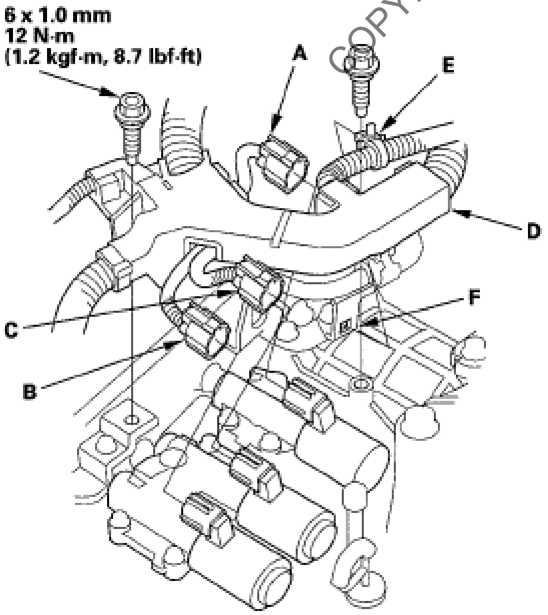

6 x 1.0 mm
12 N·m
(1.2 kgf·m, 8.7 lbf·ft)
A
E
D
F
C
B

**Fig. 283: Identifying A/T Clutch Pressure Control Solenoid Valve A Connector And A/T Clutch Pressure Control Solenoid Valve B Connector**

**w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Secure the harness cover (D) with the mounting bolts, and install the harness clamp (E) on its bracket (F).
46. Loosen the upper torque rod bolt (A).

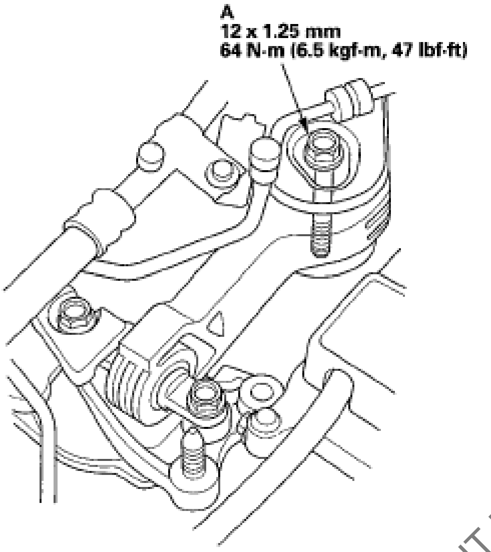

A
12 x 1.25 mm
64 N·m (6.5 kgf·m, 47 lbf·ft)

**Fig. 284: Identifying Upper Torque Rod Bolt w/Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Loosen the transmission mounting bolt (A) and the nuts (B).

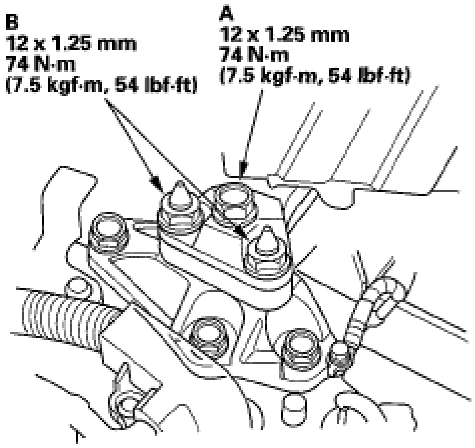

B
12 x 1.25 mm
74 N·m
(7.5 kgf·m, 54 lbf·ft)
A
12 x 1.25 mm
74 N·m
(7.5 kgf·m, 54 lbf·ft)

**Fig. 285: Identifying Transmission Mounting Bolt, Nuts & Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Loosen the lower torque rod bolt (A).

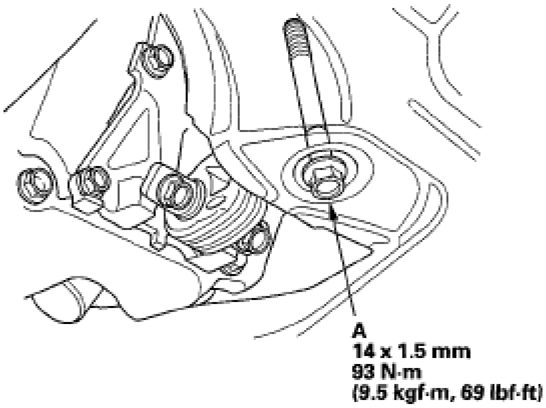


**Fig. 286: Identifying Lower Torque Rod Bolt w/Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Tighten the lower torque rod bolt.
50. Tighten the transmission mounting bolt and the nuts.
51. Tighten the upper torque rod bolt.
52. Refill the transmission with ATF (see step 5 ).
53. Install the battery base and the resonator.
54. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
55. Install the grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
56. Install the under-cowl panel and the cowl cover (see **COWL COVER REPLACEMENT** ).
57. Install the battery tray and the battery, then secure the battery with its hold-down bracket.
58. Install the wheels.
59. Reconnect the positive cable to the battery, then connect the negative cable.
60. Set the parking brake. Start the engine, and shift the transmission through all positions three times.
61. Check the shift lever operation, the A/T gear position indicator operation, and

the shift cable adjustment.

62. Check and adjust the front wheel alignment (see **WHEEL ALIGNMENT** ).
63. Install the splash shield.
64. Start the engine in P or N, and warm it up to normal operating temperature (the radiator fan comes on). Turn off the engine, and check the ATF level (see **ATF LEVEL CHECK** ).
65. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).
66. Do the road test (see **ROAD TEST** ).

### DRIVE PLATE REMOVAL AND INSTALLATION

1. Remove the transmission assembly (see **TRANSMISSION REMOVAL** ).
2. Remove the drive plate (A) and the washer (B) from the engine.

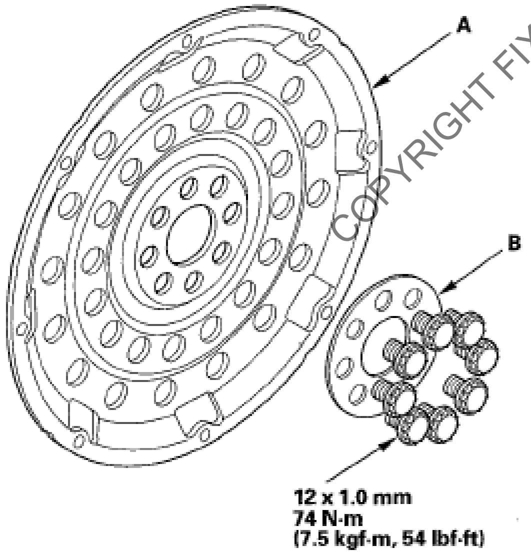


**Fig. 287: Identifying Drive Plate, Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the drive plate and the washer on the engine crankshaft, and tighten the eight bolts in a crisscross pattern in two or more steps.
4. Install the transmission assembly (see **TRANSMISSION INSTALLATION** ).

## ATF WARMER HOSE REPLACEMENT

1. Slide the ATF warmer hoses (A) on the ATF filter (B) until the hose ends contact the filter housing, and secure the hoses with the clips (C) at 6-8 mm (0.24-0.31 in.) (D) from the filter housing.

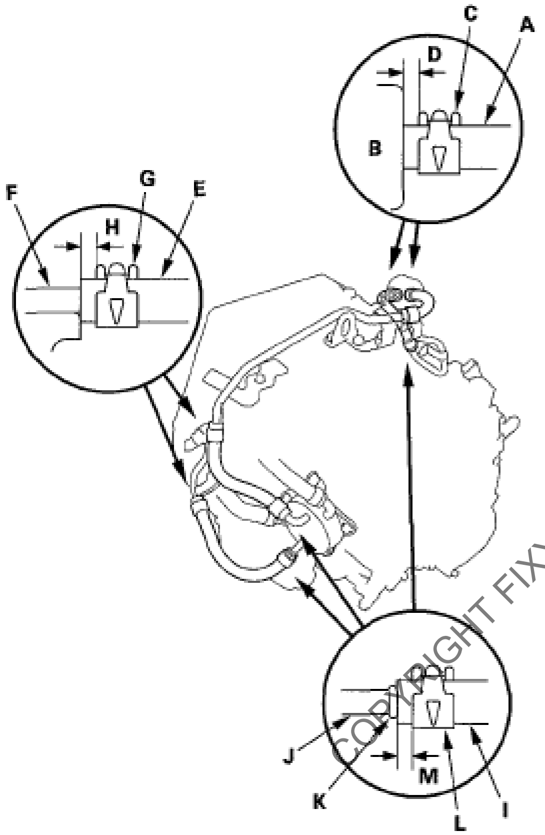


**Fig. 288: Identifying ATF Warmer Hoses And ATF Filter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Slide the ATF warmer hoses (E) over the ATF lines (F) until the hoses stop, and secure the hoses with the clip (G) at 6-8 mm (0.24-0.31 in.) (H) from the hose end.
3. Slide the ATF warmer hoses (I) over the ATF warmer lines (J) until the hose ends contact the bulge (K), and secure the hoses with the clip (L) at 6-8 mm (0.24-0.31 in.) (M) from the hose end.

## ATF WARMER REPLACEMENT

1. Remove the splash shield.
2. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
3. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
4. Disconnect the negative cable from the battery, then disconnect the positive cable.
5. Remove the battery hold-down bracket, and remove the battery and the battery tray.
6. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
7. Remove the battery base and the resonator.
8. Disconnect the water by-pass hoses (A) and the ATF warmer hoses (B) from the ATF warmer (C), and turn the hose ends up to prevent fluid from flowing out.

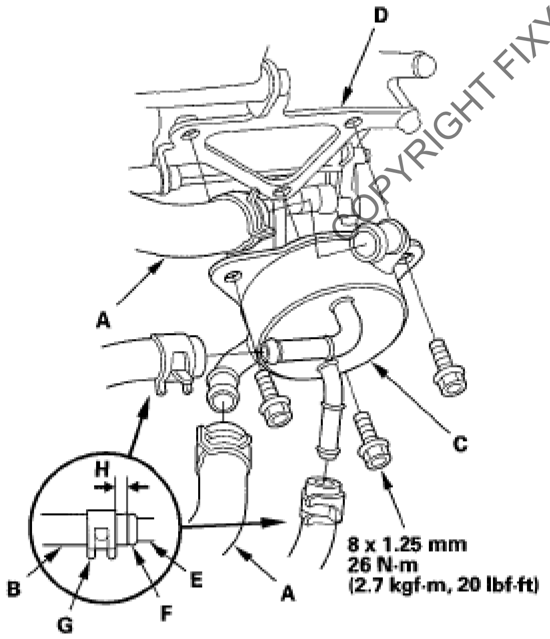


**Fig. 289: Identifying Water By-Pass Hoses, ATF Warmer Hoses & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the ATF warmer, and replace it with new one.

10. Install a new ATF warmer on its bracket (D).
11. Slide the water by-pass hoses to the ATF warmer, and secure the hoses with the clips.
12. Slide the ATF warmer hoses over the ATF warmer lines (E) until the hose ends contact the bulge (F), and secure the hoses with the clip (G) at 6-8 mm (0.24-0.31 in.) (H) from the hose end.
13. Install the battery base and the resonator.
14. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
15. Install the battery tray and the battery, then secure the battery with its hold-down bracket.
16. Reconnect the positive cable to the battery, then connect the negative cable.
17. Install the splash shield.
18. Check the ATF level, and add ATF to proper level if necessary (see **ATF LEVEL CHECK** ).
19. Fill the engine cooling system with recommended coolant (see step 9 on **COOLANT REPLACEMENT** ).
20. Start the engine in P or N, and warm it up to normal operating temperature (the radiator fan comes on). Turn off the engine, and recheck the ATF level (see **ATF LEVEL CHECK** ).
21. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).

### ATF FILTER REPLACEMENT

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Disconnect the ATF warmer hose (A) from the ATF filter (B).

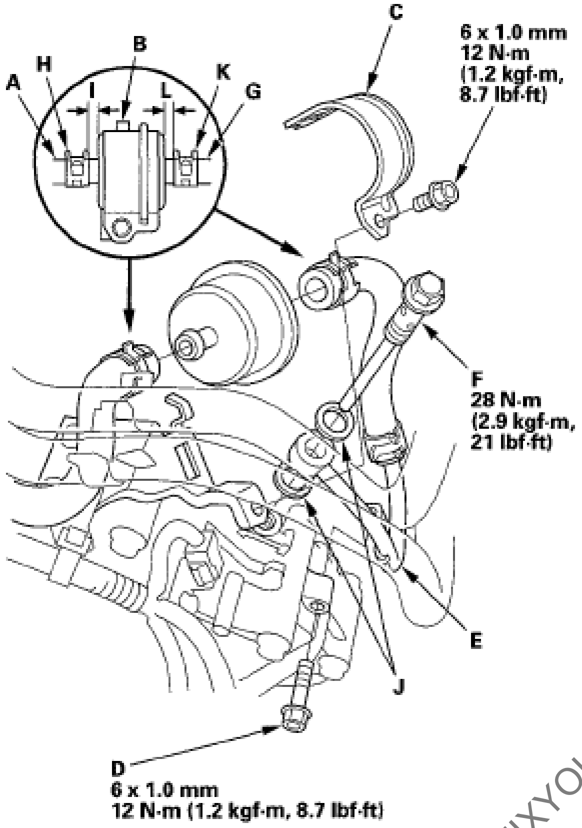

C
6 x 1.0 mm
12 N·m
(1.2 kgf·m,
8.7 lbf·ft)
B
H
A
I
L
K
G
F
28 N·m
(2.9 kgf·m,
21 lbf·ft)
E
J
D
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 290: Identifying ATF Warmer Hose, ATF Filter & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF filter holder (C).
4. Remove the bolt (D) securing the ATF inlet line (E).
5. Remove the joint bolt (F) from the ATF inlet line.
6. Disconnect the ATF filter from the ATF warmer hose (G), and replace it with new one.
7. Slide the ATF warmer hose (A) on the new ATF filter until the hose end contacts the filter housing, and secure the hose with the clip (H) at 6-8 mm (0.24-0.31 in.) (I) from the filter housing.
8. Install the ATF filter and the ATF inlet line/hose with the joint bolt and new sealing washers (J).
9. Secure the ATF filter with the ATF filter holder and the bolt.
10. Slide the ATF warmer hose (G) on the ATF filter until the hose end contacts

the filter housing, and secure the hose with the clip (K) at 6-8 mm (0.24-0.31 in.) (L) from the filter housing.

11. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**SHIFT LEVER REMOVAL**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Shift the shift lever into R.
3. Pry the socket holder lock (A) up using a screwdriver.

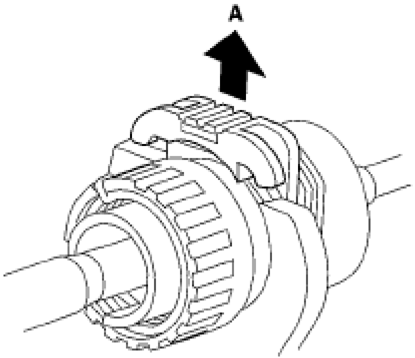


**Fig. 291: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the nut securing the shift cable end.

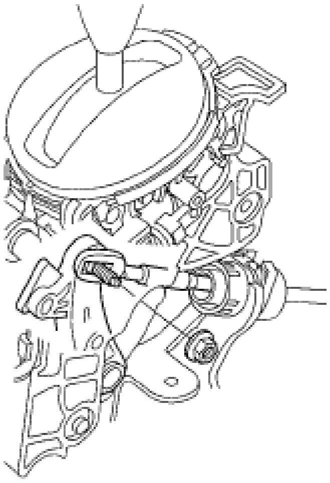


**Fig. 292: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

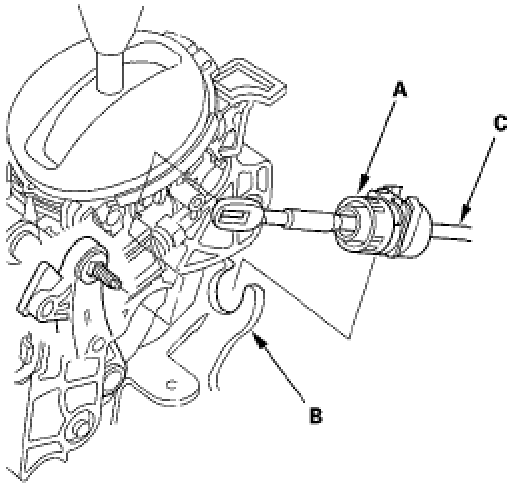


**Fig. 293: Identifying Socket Holder Retainer, Socket Holder Bracket And Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the shift lock solenoid connector (A) and the park pin switch/A/T gear position indicator panel light connector (B).

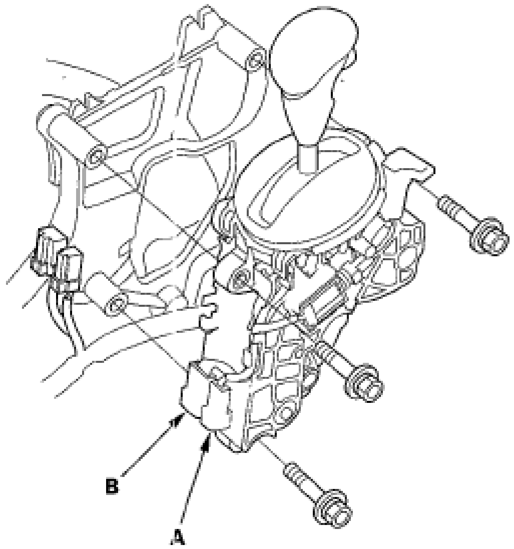


**Fig. 294: Identifying Shift Lock Solenoid Connector And Park Pin Switch/A/T Gear Position Indicator Panel Light Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the shift lever assembly.

**SHIFT LEVER INSTALLATION**

1. Install the shift lever assembly.

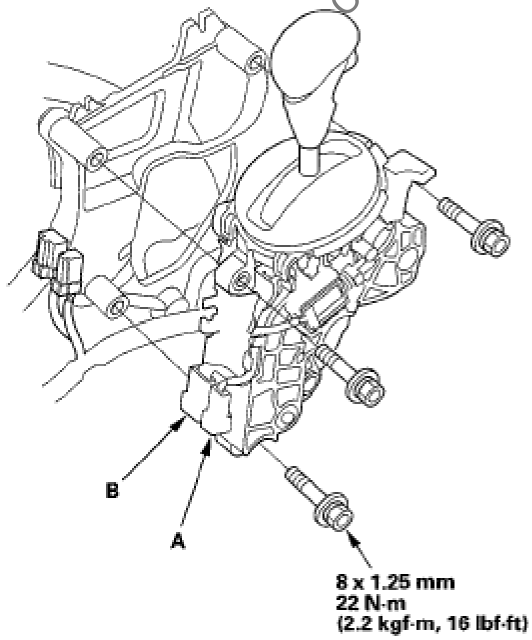


**Fig. 295: Identifying Shift Lock Solenoid Connector, Park Pin Switch/A/T Gear Position Indicator Panel Light Connector & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the shift lock solenoid connector (A) and the park pin switch/A/T gear position indicator panel light connector (B).
3. Install the shift cable on the shift lever, and adjust the cable (see **SHIFT CABLE ADJUSTMENT** ).

### SHIFT LEVER DISASSEMBLY/REASSEMBLY

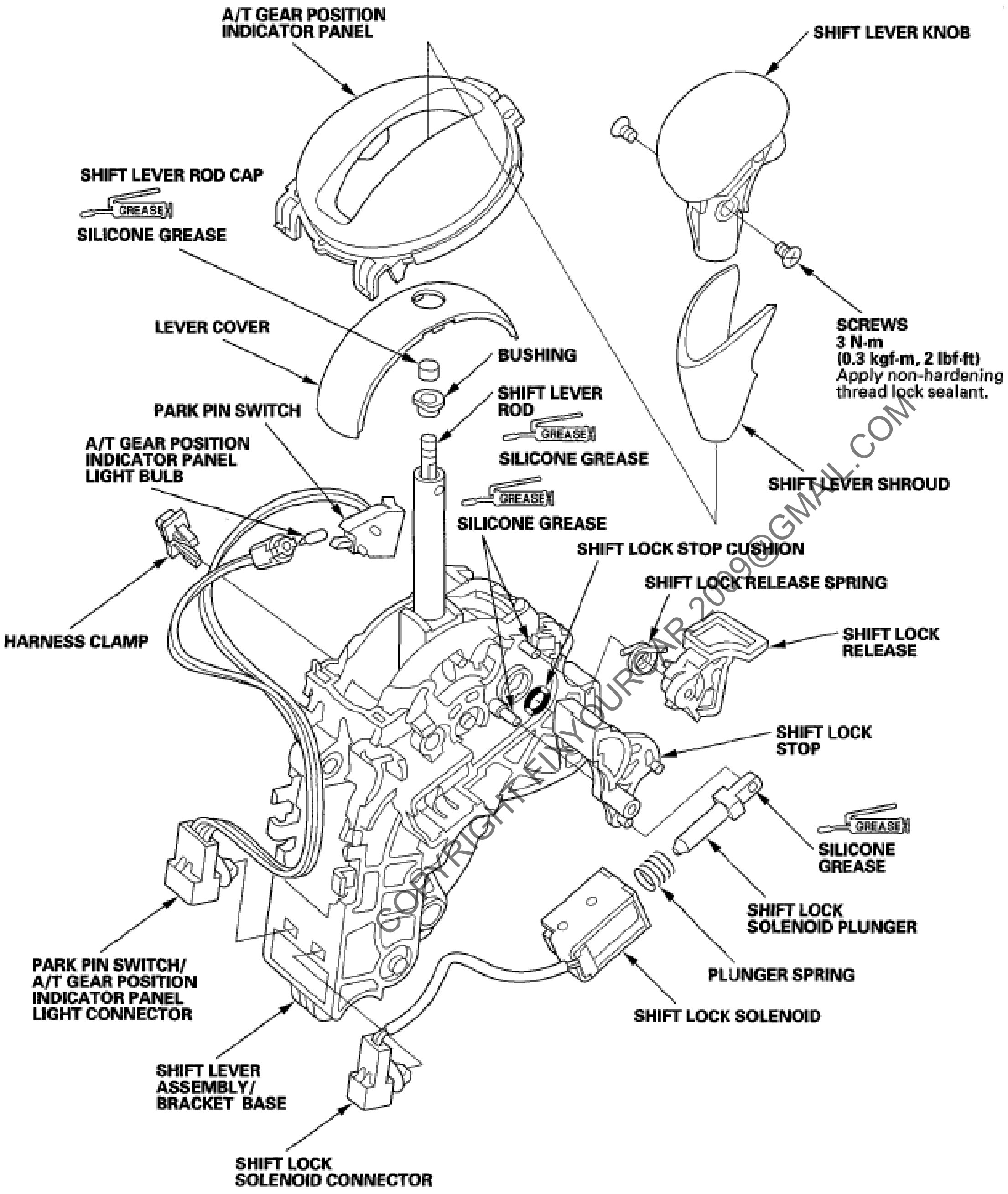

A/T GEAR POSITION INDICATOR PANEL
SHIFT LEVER KNOB
SHIFT LEVER ROD CAP
GREASE
SILICONE GREASE
LEVER COVER
BUSHING
SCREWS
3 N·m
(0.3 kgf·m, 2 lbf·ft)
Apply non-hardening thread lock sealant.
PARK PIN SWITCH
SHIFT LEVER ROD
GREASE
SILICONE GREASE
A/T GEAR POSITION INDICATOR PANEL LIGHT BULB
GREASE
SILICONE GREASE
SHIFT LEVER SHROUD
SHIFT LOCK STOP CUSHION
SHIFT LOCK RELEASE SPRING
HARNESS CLAMP
SHIFT LOCK RELEASE
SHIFT LOCK STOP
GREASE
SILICONE GREASE
SHIFT LOCK SOLENOID PLUNGER
PARK PIN SWITCH/ A/T GEAR POSITION INDICATOR PANEL LIGHT CONNECTOR
PLUNGER SPRING
SHIFT LOCK SOLENOID
SHIFT LEVER ASSEMBLY/ BRACKET BASE
SHIFT LOCK SOLENOID CONNECTOR

**Fig. 296: Disassembling Shift Lever & Screws w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### SHIFT CABLE REPLACEMENT

1. Raise the vehicle on a lift or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the center console (see **CENTER CONSOLE**

**REMOVAL/INSTALLATION** ).

3. Pry the socket holder lock (A) up using a screwdriver.

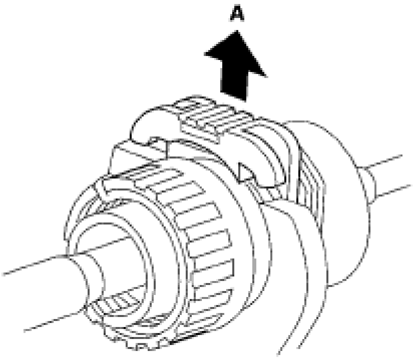


**Fig. 297: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the nut securing the shift cable end.

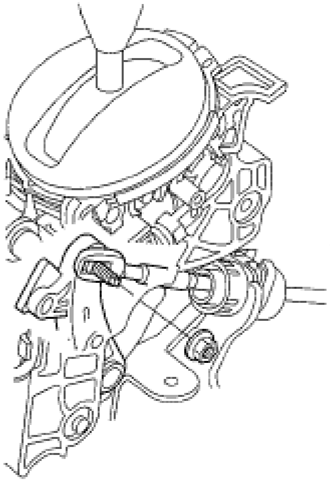


**Fig. 298: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

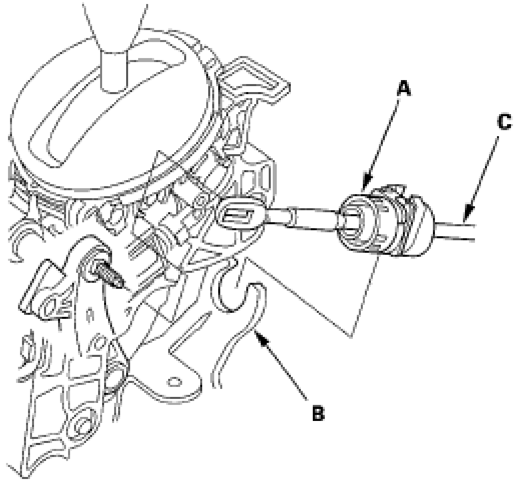


**Fig. 299: Identifying Socket Holder Retainer, Socket Holder Bracket And Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the shift cable cover (A), and remove the three bolts securing the shift cable holder (B).

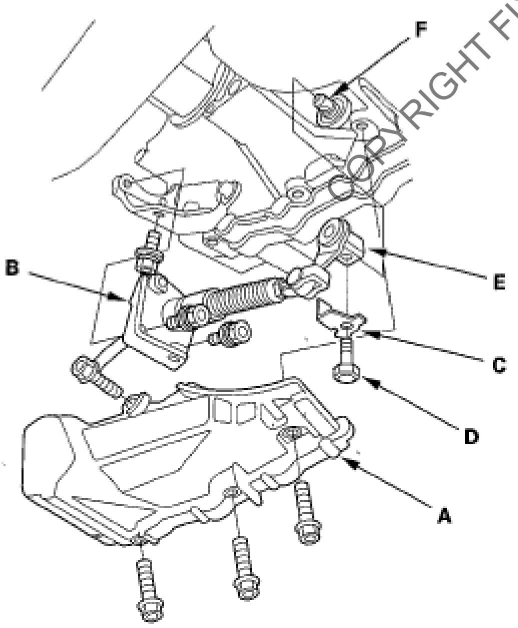


**Fig. 300: Identifying Shift Cable Cover And Shift Cable Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Pry up the lock tab of the lock washer (C), and remove the lock bolt (D) and the lock washer, then separate the shift cable (E) from the control shaft (F).

8. Remove the nuts securing the shift cable bracket (A) and the grommet (B).

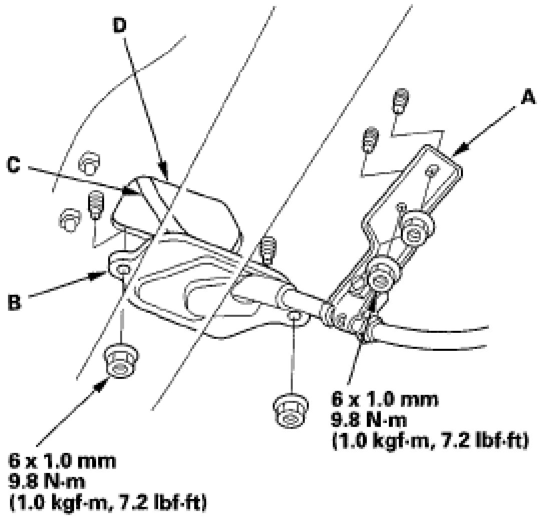


**Fig. 301: Identifying Shift Cable Bracket, Grommet & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the shift cable grommet, and pull out the shift cable (C).
10. Insert a new shift cable through the grommet hole (D), and install the grommet in its hole. Do not bend the shift cable excessively.
11. Secure the shift cable bracket and the grommet with the nuts.
12. Make sure that the transmission is in the R position at the selector control shaft.
13. Install the control lever (A) over the control shaft (B).

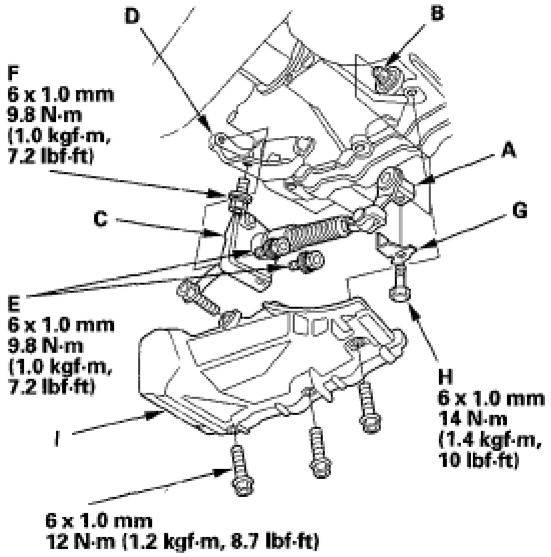

D
B
F
6 x 1.0 mm
9.8 N·m
(1.0 kgf·m,
7.2 lbf·ft)
A
C
G
E
6 x 1.0 mm
9.8 N·m
(1.0 kgf·m,
7.2 lbf·ft)
H
6 x 1.0 mm
14 N·m
(1.4 kgf·m,
10 lbf·ft)
I
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 302: Identifying Control Lever, Control Shaft, Shift Cable Holder & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the shift cable holder (C) on the holder bracket (D) and tighten the bolts loosely. Tighten the bolts (E) in the lateral position to the specified torque, then tighten the bolt (F) in the vertical position.
15. Secure the control lever with a new lock washer (G) and the lock bolt (H), then bend the lock tab of the lock washer against the bolt head.
16. Install the shift cable cover (I).
17. Install the shift cable on the shift lever, and adjust the cable (see step 5 ).

**SHIFT CABLE ADJUSTMENT**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Pry the socket holder lock (A) up with a screwdriver.

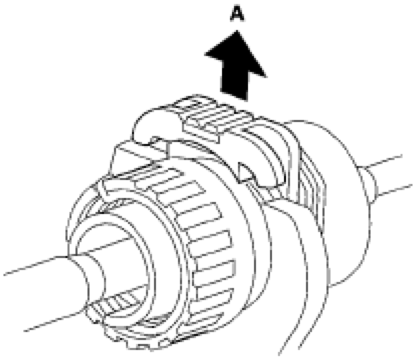


**Fig. 303: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the nut securing the shift cable end.

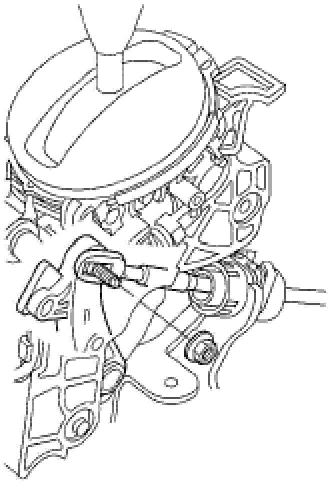


**Fig. 304: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

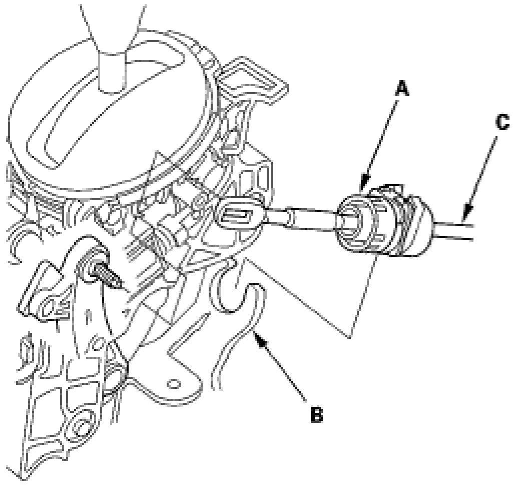


Fig. 305: Identifying Socket Holder Retainer And Socket Holder Bracket With Shift Cable
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. While holding the socket holder (A), rotate the socket holder retainer (B) fully counterclockwise, and press in the socket holder lock (C) between the holder and retainer.

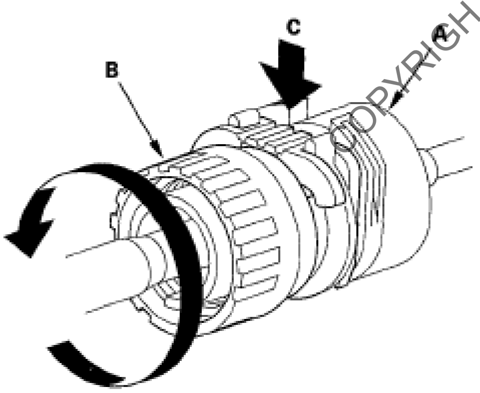


Fig. 306: Pressing Socket Holder Lock Between Holder And Retainer
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Align the socket holder (A) with the slot (B) in the socket holder bracket (C), then slide the holder into the bracket.

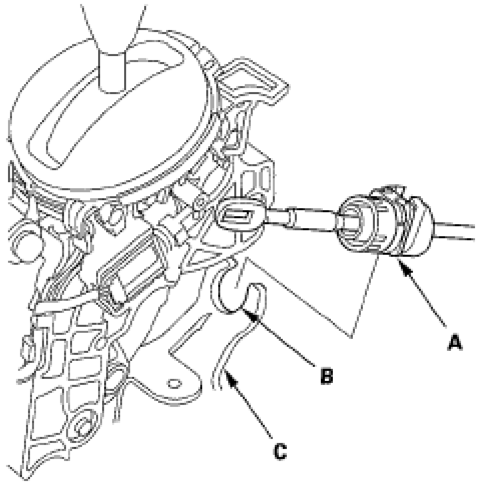


**Fig. 307: Identifying Socket Holder And Socket Holder Bracket With Slot**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Rotate the socket holder retainer (A) clockwise, and push the socket holder lock (B). Rotate the holder retainer counterclockwise until the retainer stops at the stop (C) of the holder lock to secure the shift cable.

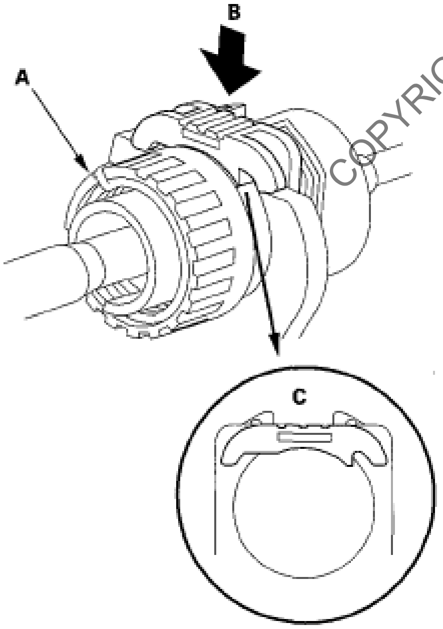


**Fig. 308: Pushing Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Push the shift cable (A) until it stops, then release it. Pull the shift cable back

one step so that the shift position is in R. Do not hold the shift cable guide (B) to adjust the shift cable.

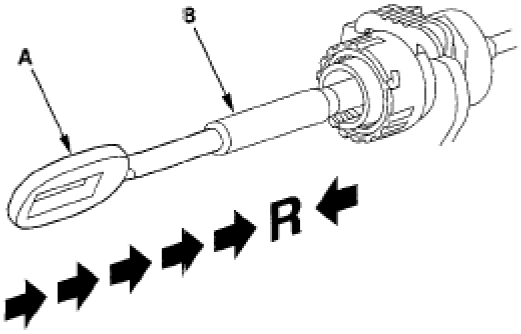


**Fig. 309: Pushing Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Turn the ignition switch to ON (II), and check that the R indicator comes on.

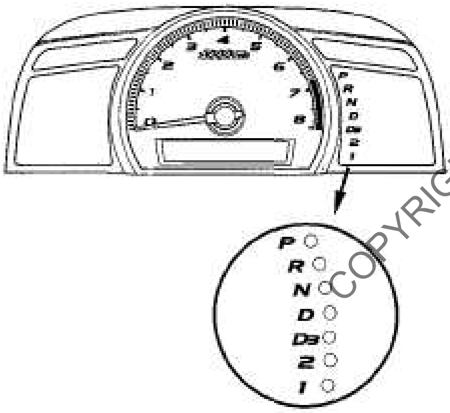


**Fig. 310: Identifying R Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Turn the ignition switch to LOCK (0).
11. Place the shift lever in R, then insert a 6.0 mm (0.24 in.) pin (A) into the positioning hole (B) on the shift lever bracket, through the positioning hole on the shift lever, and into the positioning hole on the bracket. Use only a 6.0 mm pin that is free any burns.

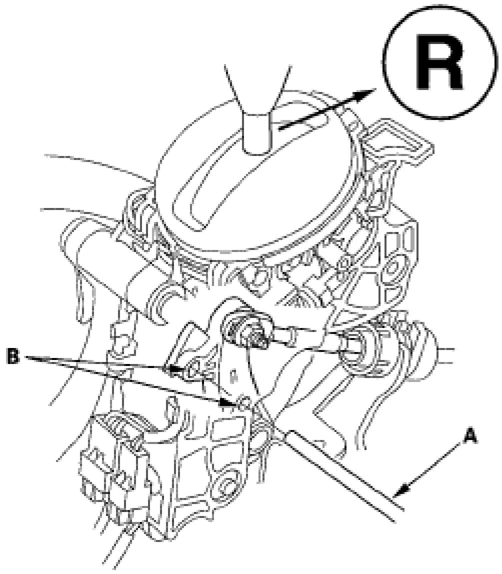


**Fig. 311: Inserting Pin Into Hole On Shift Lever Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Check that the shift lever is secured in R.
13. Install the shift cable end (A) over the mounting stud (B) by aligning its square hole (C) with the square fitting (D) at the bottom of the stud. Do not install the shift cable by holding the shift cable guide (E).

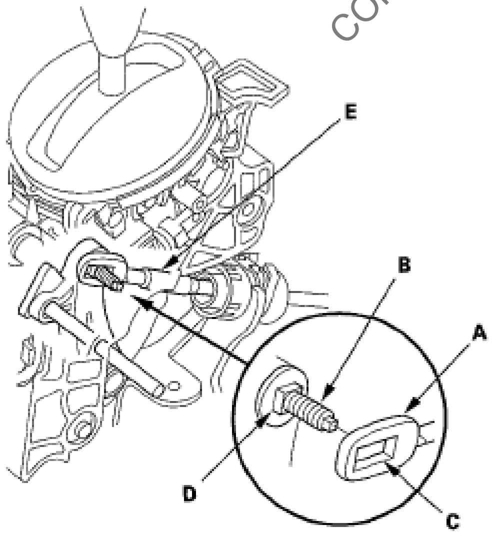


**Fig. 312: Aligning Square Hole With Square Fitting**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Check that the shift cable end (A) is properly installed on the mounting stud (B).

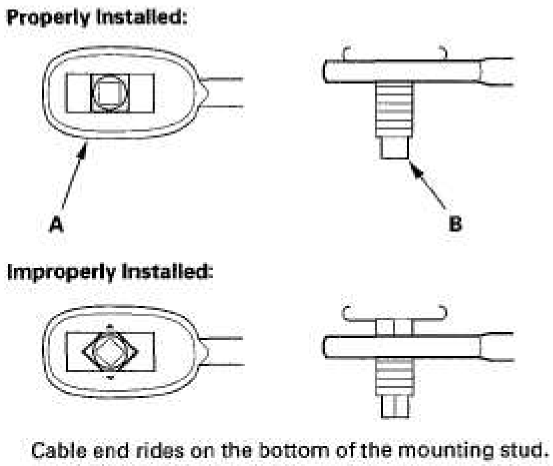

Properly Installed:
A
B
Improperly Installed:
Cable end rides on the bottom of the mounting stud.

**Fig. 313: Identifying Shift Cable Properly And Improperly Installation Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. If improperly installed, align the square fitting with the square hole by rotating the mounting stud.
16. Install and tighten the nut.

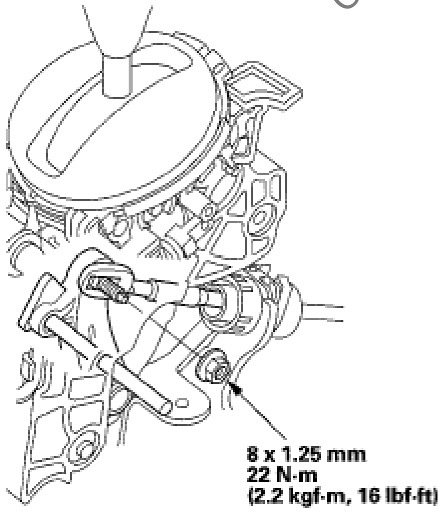

8 x 1.25 mm
22 N·m
(2.2 kgf·m, 16 lbf·ft)

**Fig. 314: Identifying Shift Cable Nuts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the 6.0 mm (0.24 in.) pin that was installed to hold the shift lever.
18. Turn the ignition switch to ON (II). Move the shift lever to each position, and check that the A/T gear position indicator follows the transmission range switch.
19. Shift to P, and check that the shift lock works properly. Push the shift lock release, and check that the shift lever releases.
20. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## A/T GEAR POSITION INDICATOR

### COMPONENT LOCATION INDEX

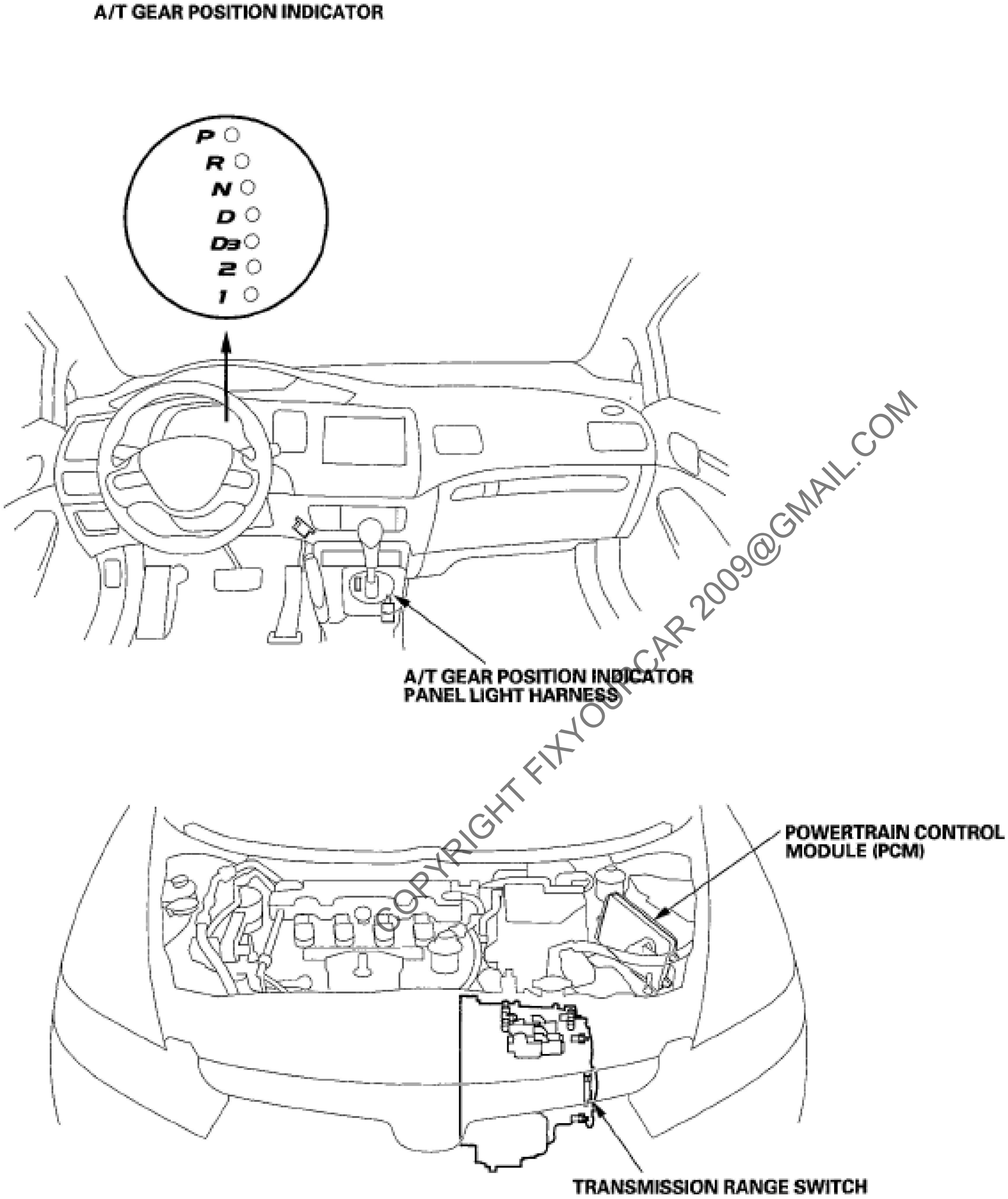

A/T GEAR POSITION INDICATOR
P
R
N
D
D3
2
1
A/T GEAR POSITION INDICATOR
PANEL LIGHT HARNESS
POWERTRAIN CONTROL
MODULE (PCM)
TRANSMISSION RANGE SWITCH

**Fig. 315: Identifying A/T Gear Position Indicator Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

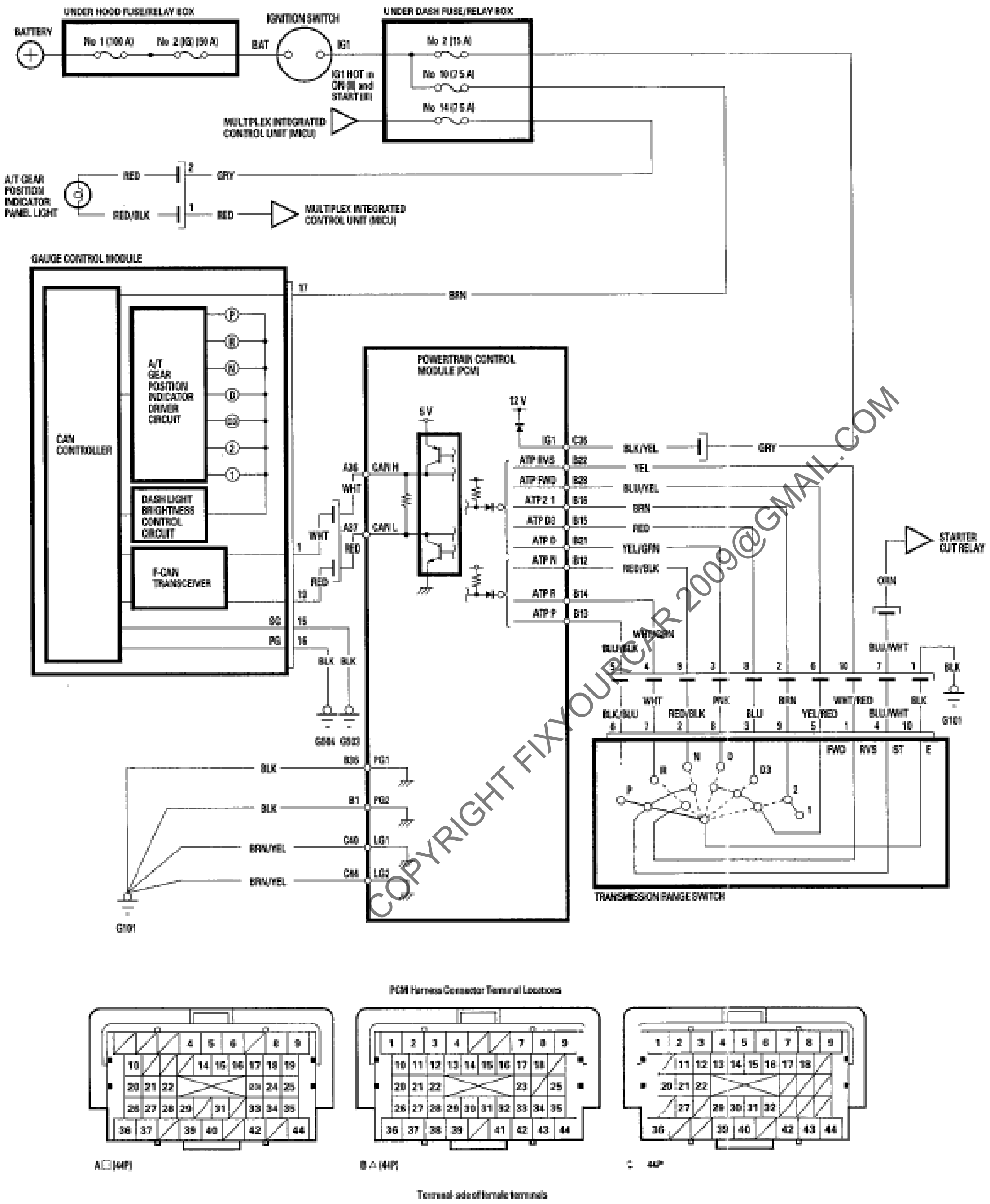

UNDER HOOD FUSE/RELAY BOX
BATTERY
No 1 (100 A)
No 2 (IG) (50 A)
IGNITION SWITCH
BAT
IG1
IG1 HOT in ON (II) and START (III)
UNDER DASH FUSE/RELAY BOX
No 2 (15 A)
No 10 (7.5 A)
No 14 (7.5 A)
MULTIPLEX INTEGRATED CONTROL UNIT (MICU)
A/T GEAR POSITION INDICATOR PANEL LIGHT
RED
GRY
RED/BLK
RED
MULTIPLEX INTEGRATED CONTROL UNIT (MICU)
GAUGE CONTROL MODULE
CAN CONTROLLER
A/T GEAR POSITION INDICATOR DRIVER CIRCUIT
P
R
N
D
D3
2
1
DASH LIGHT BRIGHTNESS CONTROL CIRCUIT
F-CAN TRANSCEIVER
17
BRN
1
19
SG 15
PG 16
WHT
RED
BLK
BLK
G504
G503
POWERTRAIN CONTROL MODULE (PCM)
5 V
12 V
A36 CAN H
A37 CAN L
IG1 C36
ATP RVS B22
ATP FWD B29
ATP 2 1 B16
ATP D3 B15
ATP D B21
ATP N B12
ATP R B14
ATP P B13
B36 PG1
B1 PG2
C40 LG1
C44 LG2
BLK/YEL
GRY
YEL
BLU/YEL
BRN
RED
YEL/GRN
RED/BLK
WHT/GRN
BLU/BLK
BLK
BLK
BRN/YEL
BRN/YEL
G101
STARTER CUT RELAY
ORN
BLU/WHT
BLK
G101
5 4 9 3 8 2 6 10 7 1
WHT
PNK
BRN
WHT/RED
BLK
BLK/BLU
RED/BLK
BLU
YEL/RED
BLU/WHT
6 7 2 8 3 9 5 1 4 10
FWD
RVS
ST
E
P
R
N
D
D3
2
1
TRANSMISSION RANGE SWITCH
PCM Harness Connector Terminal Locations
A (44P)
B (44P)
C (44P)
Terminal side of female terminals

**Fig. 316: A/T Gear Position Indicator - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### TRANSMISSION RANGE SWITCH TEST

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.

2. Disconnect the transmission range switch harness connector (A).

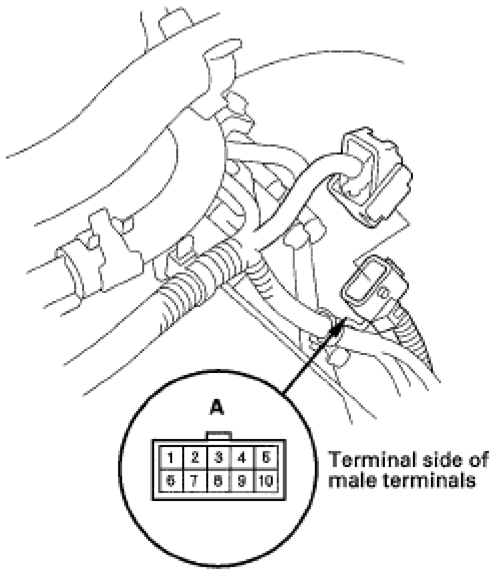
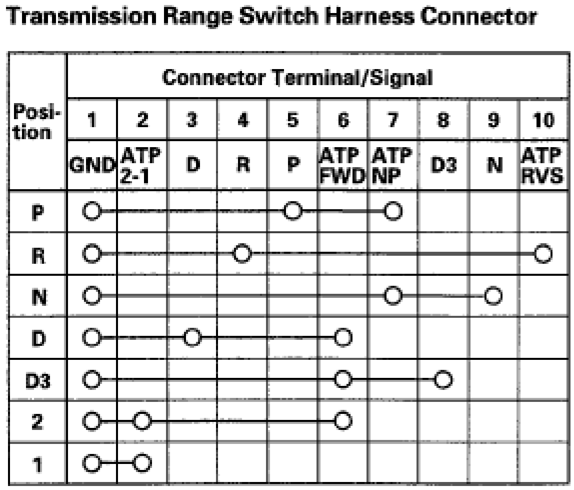


**Fig. 317: Identifying Transmission Range Switch Harness Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between terminals at the harness connector. There should be continuity between the terminals in the following table for each switch position.



Transmission Range Switch Harness Connector

| Position | Connector Terminal/Signal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | GND | ATP 2-1 | D | R | P | ATP FWD | ATP NP | D3 | N | ATP RVS |
| P | ○ | | | | ○ | | ○ | | | |
| R | ○ | | | ○ | | | | | | ○ |
| N | ○ | | | | | | ○ | | ○ | |
| D | ○ | | ○ | | | ○ | | | | |
| D3 | ○ | | | | | ○ | | ○ | | |
| 2 | ○ | ○ | | | | ○ | | | | |
| 1 | ○ | ○ | | | | | | | | |

**Fig. 318: Transmission Range Switch Harness Connector Continuity Chart**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Transmission range switch test is completed if the test results are OK.

   If there is no continuity between any terminals, go to step 5.

5. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
6. Remove the transmission range switch cover.

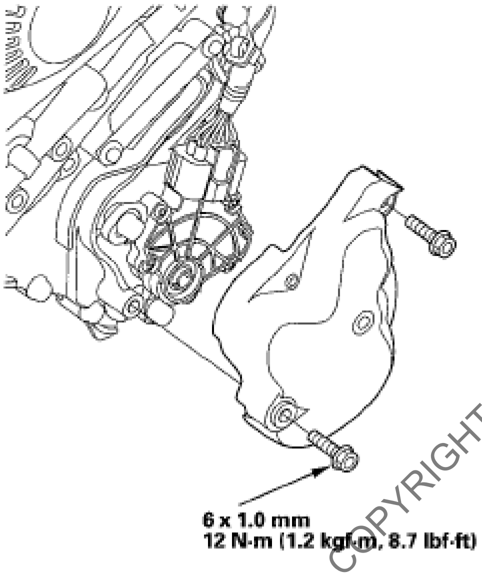


**Fig. 319: Identifying Transmission Range Switch Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the transmission range switch connector.

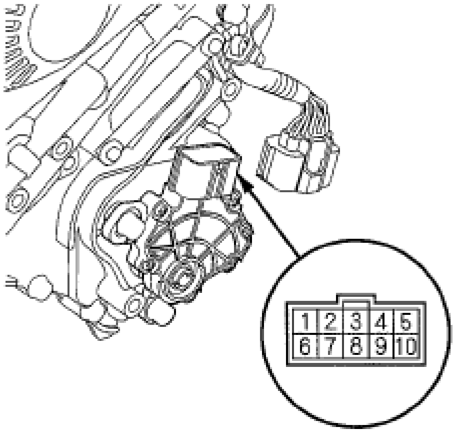
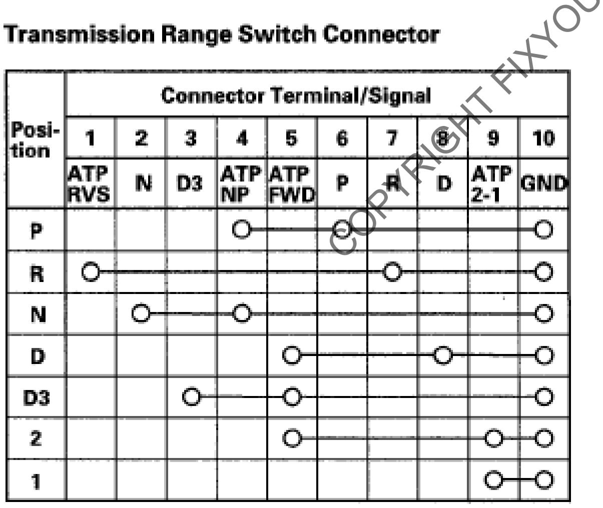


Fig. 320: Identifying Transmission Range Switch Connector Terminal
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity between terminals at the switch connector. There should be continuity between the terminals in the following table for each switch position.



Transmission Range Switch Connector

| Position | 1 ATP RVS | 2 N | 3 D3 | 4 ATP NP | 5 ATP FWD | 6 P | 7 R | 8 D | 9 ATP 2-1 | 10 GND |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ○ | | | | ○ |
| R | ○ | | | | | | ○ | | | ○ |
| N | | ○ | | ○ | | | | | | ○ |
| D | | | | | ○ | | | ○ | | ○ |
| D3 | | | ○ | | ○ | | | | | ○ |
| 2 | | | | | ○ | | | | ○ | ○ |
| 1 | | | | | | | | | ○ | ○ |

Fig. 321: Transmission Range Switch Connector Continuity Chart
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If the transmission range switch test is OK, replace the faulty transmission range switch harness. If there is no continuity between any terminals, go to step 10.
10. Remove the transmission range switch, and check the end of the selector control shaft (A).

**Selector Control Shaft Specification:**

**Width (B): 6.1-6.2 mm (0.240-0.244 in.)**

**End Gap (C): 1.8-2.0 mm (0.07-0.08 in.)**

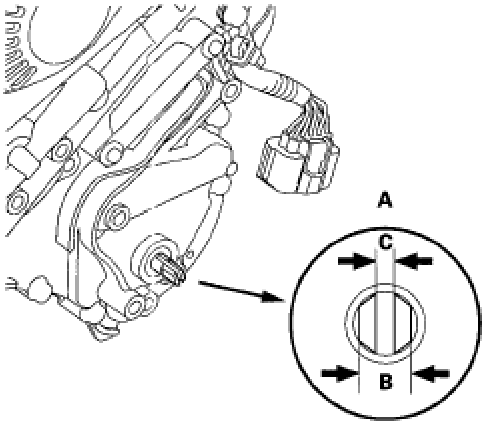


**Fig. 322: Identifying Transmission Range Switch Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. If the measurement at the end of the selector control shaft end is within the standard, replace the transmission range switch. If the measurement is out of the standard, repair the selector control shaft end, and recheck the transmission range switch continuity.

### TRANSMISSION RANGE SWITCH REPLACEMENT

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Shift the shift lever to N.
3. Remove the transmission range switch cover.

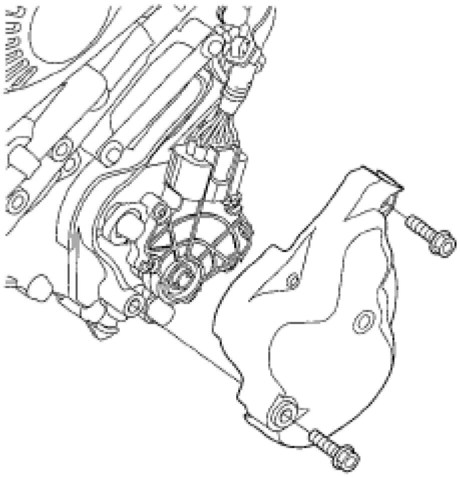


**Fig. 323: Identifying Transmission Range Switch Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the transmission range switch.

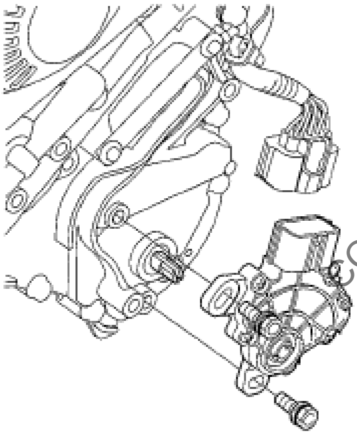


**Fig. 324: Identifying Transmission Range Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Make sure the selector control shaft is in the N position. If necessary, move the shift lever to the N position from the P position.

**NOTE: Do not use the selector control shaft to adjust the shift position. If the selector control shaft tips are squeezed together it will cause a faulty signal or position due to play between the selector control shaft and switch.**

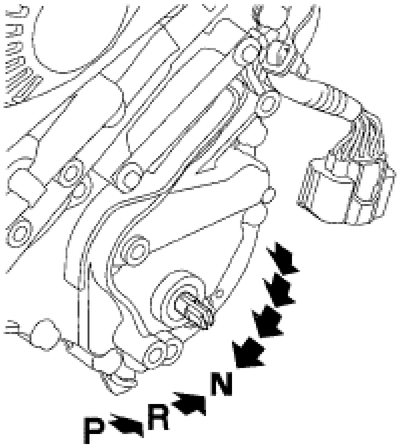


**Fig. 325: Identifying Shift Lever Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Align the cutouts (A) on the rotary-frame with the neutral positioning cutouts (B) on the transmission range switch (C), then put a 2.0 mm (0.08 in.) feeler gauge blade (D) in the cutouts to hold the switch in the N position.

**NOTE: Be sure to use a 2.0 mm (0.08 in.) blade or equivalent to hold the switch in the N position.**

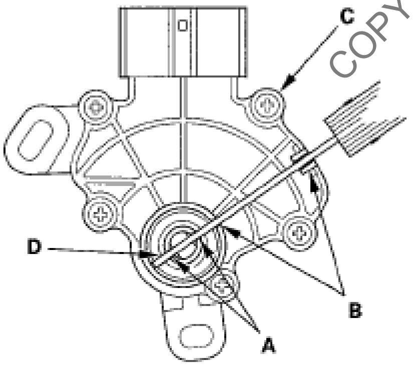


**Fig. 326: Aligning Cutouts On Rotary-Frame With Neutral Positioning Cutouts On Transmission Range Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the transmission range switch (A) gently on the selector control shaft (B) while holding it in the N position with the 2.0 mm (0.08 in.) blade (C).

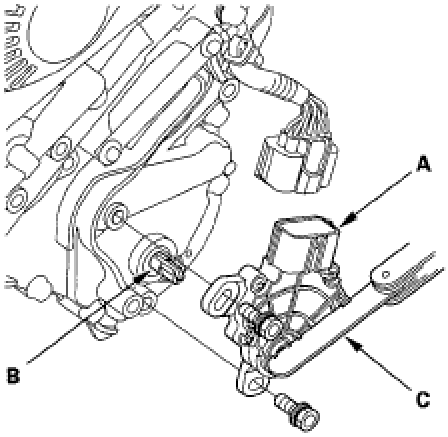


**Fig. 327: Holding Transmission Range Switch N Position With Blade**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Tighten the bolts on the transmission range switch while you continue holding the N position. Do not move the transmission range switch when tightening the bolts. Remove the feeler gauge.

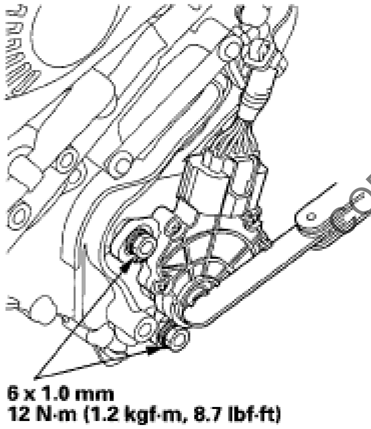


**Fig. 328: Moving Transmission Range Switch & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connector securely.
10. Turn the ignition switch to ON (II). Move the shift lever through all positions, and check the transmission range switch synchronization with the A/T gear position indicator.

11. Check that the engine will start in P and N, and will not start in any other shift lever position.
12. Check that the back-up lights come on when the shift lever is in R.
13. Allow the front wheels to rotate freely, then start the engine, and check the shift lever operation.
14. Install the transmission range switch cover.

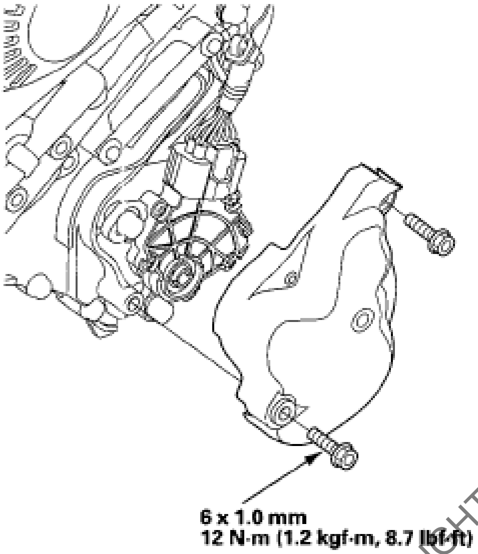


**Fig. 329: Identifying Transmission Range Switch Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT

**NOTE: The A/T gear position indicator light and the park pin switch are not available separately. Replace the A/T gear position indicator light and the park pin switch as a set.**

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Loosen the A/T gear position indicator panel (see **SHIFT LEVER DISASSEMBLY/REASSEMBLY** ).
3. Remove the park pin switch (A) while pressing the park pin switch lock (B).

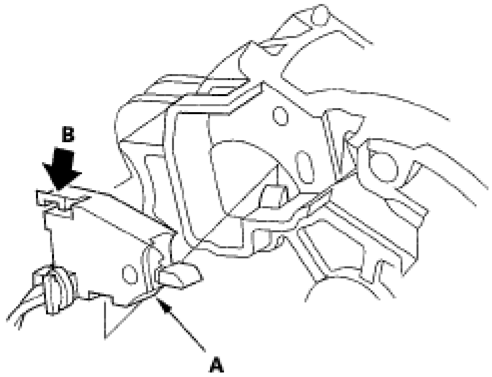


**Fig. 330: Pressing Park Pin Switch Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the A/T gear position indicator panel light and socket (A) from the indicator panel (B), and remove the light bulb (C) from the socket.

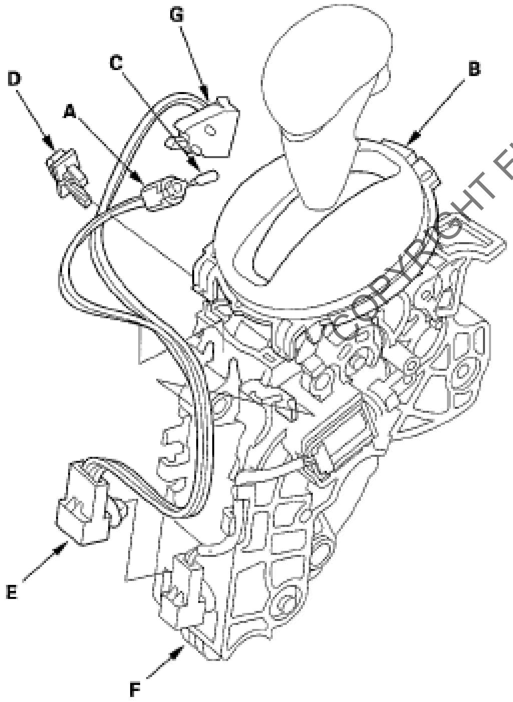


**Fig. 331: Identifying A/T Gear Position Indicator Panel Light, Socket, Indicator Panel And Light Bulb**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the harness clamp (D), and remove the park pin switch/A/T gear position indicator panel light connector (E) from the shift lever assembly/

bracket base (F).

6. Install a new park pin switch (G) on the shift lever.
7. Install the A/T gear position indicator panel light bulb in the new socket, and install it in the indicator panel.
8. Clamp the harnesses together with the harness clamp, then install the harness clamp on the shift lever bracket base.
9. Route the harnesses along the harness guides, and install the new connector in the bracket base.
10. Install the A/T gear position indicator panel (see **SHIFT LEVER DISASSEMBLY/REASSEMBLY** ).
11. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).
12. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## A/T INTERLOCK SYSTEM

### COMPONENT LOCATION INDEX

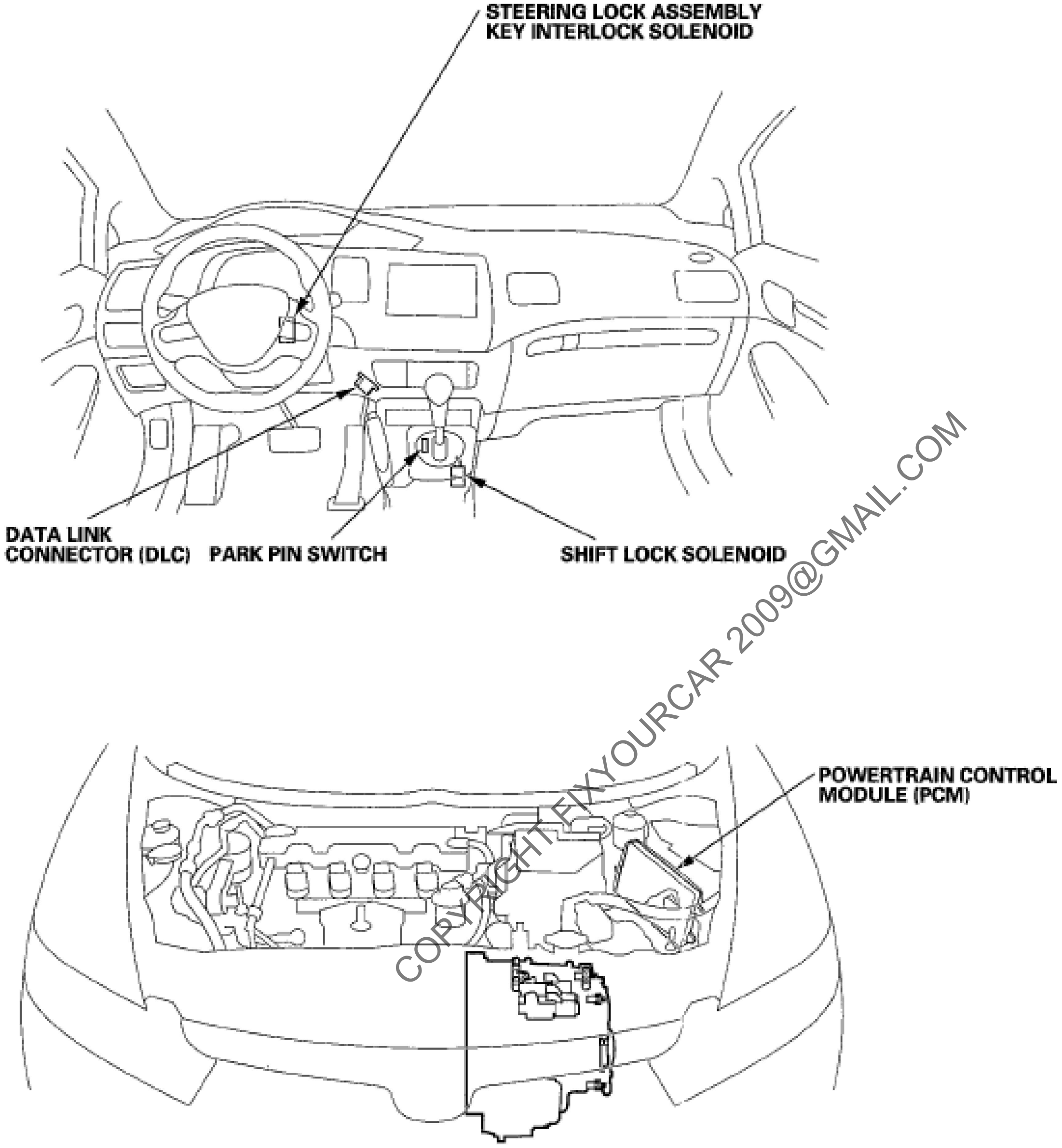

STEERING LOCK ASSEMBLY
KEY INTERLOCK SOLENOID
DATA LINK CONNECTOR (DLC)
PARK PIN SWITCH
SHIFT LOCK SOLENOID
POWERTRAIN CONTROL MODULE (PCM)

**Fig. 332: Identifying A/T Interlock System Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CIRCUIT DIAGRAM**

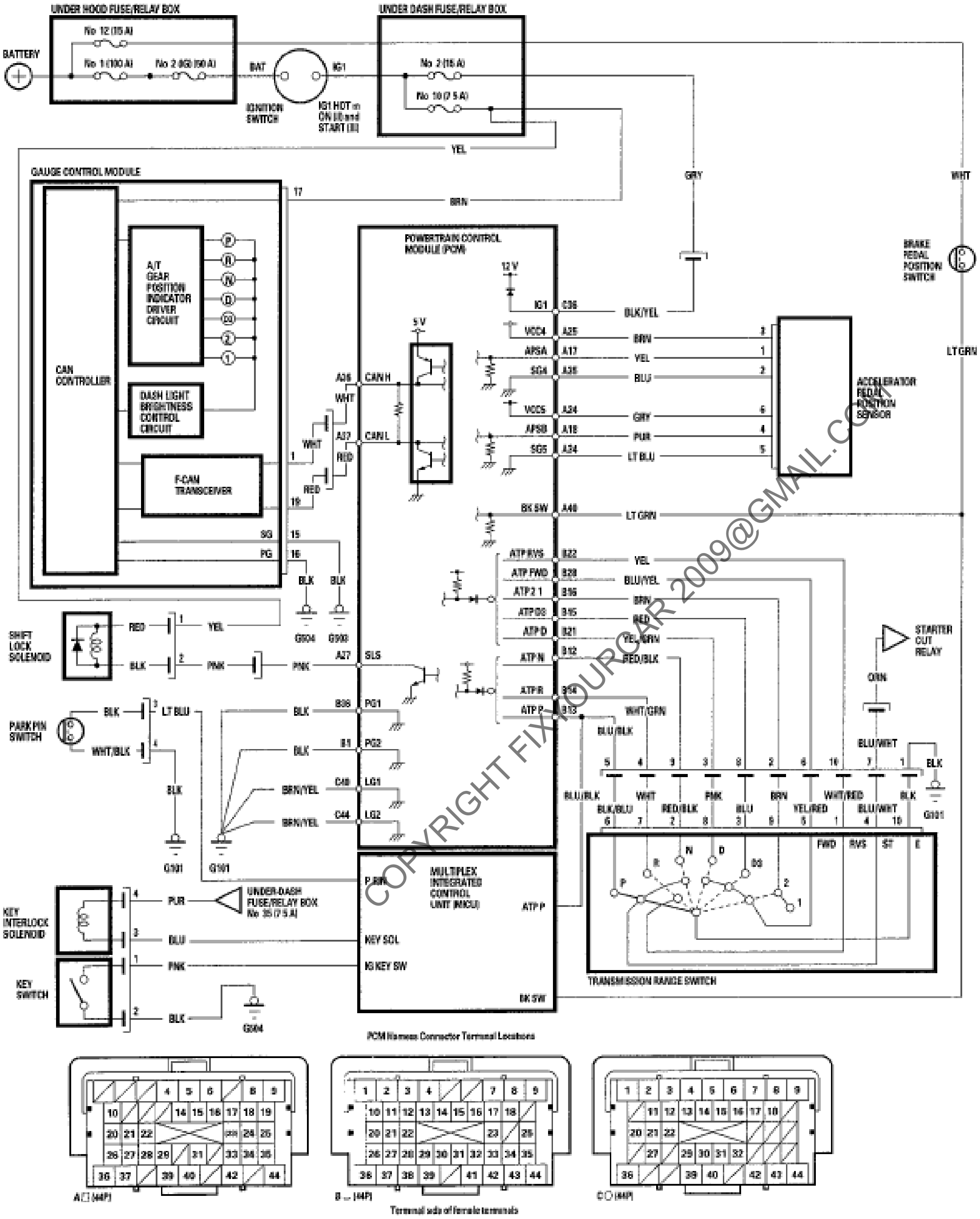

UNDER HOOD FUSE/RELAY BOX
UNDER DASH FUSE/RELAY BOX
BATTERY
No 12 (15 A)
No 1 (100 A)
No 2 (IG) (50 A)
No 2 (15 A)
No 10 (7.5 A)
BAT
IG1
IGNITION SWITCH
IG1 HOT in ON (II) and START (III)
YEL
GRY
WHT
BRN
GAUGE CONTROL MODULE
CAN CONTROLLER
A/T GEAR POSITION INDICATOR DRIVER CIRCUIT
DASH LIGHT BRIGHTNESS CONTROL CIRCUIT
F-CAN TRANSCEIVER
P
R
N
D
D3
2
1
POWERTRAIN CONTROL MODULE (PCM)
12 V
5 V
CAN H
CAN L
IG1
VCC4
APSA
SG4
VCC5
APSB
SG5
BK SW
ATP RVS
ATP FWD
ATP 2 1
ATP D3
ATP D
ATP N
ATP R
ATP P
SLS
PG1
PG2
LG1
LG2
BLK/YEL
BRN
YEL
BLU
GRY
PUR
LT BLU
LT GRN
BLU/YEL
RED
YEL/GRN
RED/BLK
WHT/GRN
BLU/BLK
ACCELERATOR PEDAL POSITION SENSOR
BRAKE PEDAL POSITION SWITCH
STARTER CUT RELAY
GRN
BLU/WHT
BLK
G101
G504
G503
SHIFT LOCK SOLENOID
PNK
PARK PIN SWITCH
WHT/BLK
BRN/YEL
MULTIPLEX INTEGRATED CONTROL UNIT (MICU)
P-PIN
KEY SOL
IG KEY SW
BK SW
ATP P
UNDER-DASH FUSE/RELAY BOX No 35 (7.5 A)
KEY INTERLOCK SOLENOID
KEY SWITCH
TRANSMISSION RANGE SWITCH
FWD
RVS
ST
E
WHT/RED
YEL/RED
BLK/BLU
RED/BLK
PCM Harness Connector Terminal Locations
A (44P)
B (44P)
C (44P)
Terminal side of female terminals

Fig. 333: A/T Interlock System - Circuit Diagram
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING

1. Connect the HDS tot he DLC located behind the driver's dashboard lower cover.

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Lock Solenoid Test in the Miscellaneous Test Menu, and check that the shift lock solenoid operates with the HDS.

   *Does the shift lock solenoid work properly?*

   **YES -**Go to step 15.

   **NO -**Go to step 4.

4. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
5. Disconnect the shift lock solenoid connector.
6. Turn the ignition switch to ON (II).
7. Measure the voltage between shift lock solenoid connector terminal No. 1 and body ground.

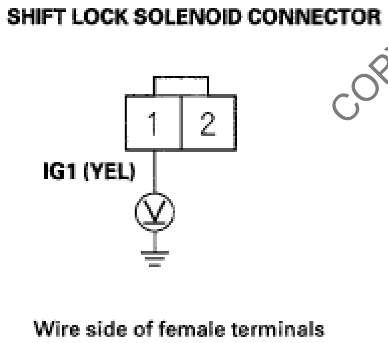


**Fig. 334: Measuring Voltage Between Shift Lock Solenoid Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 8.

**NO -**Check for a blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open or short to body ground in the wire between the shift lock solenoid connector and the under-dash fuse/relay box.

8. Shift to P, and press the brake pedal. Do not press the accelerator.
9. Measure the voltage between shift lock solenoid connector terminals No. 1 and No. 2 while pressing the brake pedal.

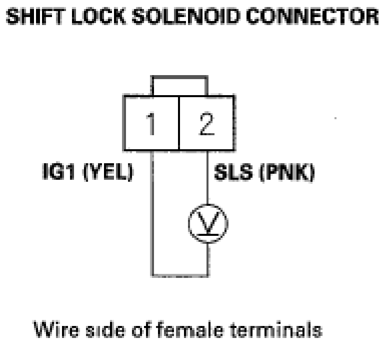

SHIFT LOCK SOLENOID CONNECTOR
1
2
IG1 (YEL)
SLS (PNK)
V
Wire side of female terminals

**Fig. 335: Measuring Voltage Between Shift Lock Solenoid Connector Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Go to step 10.

**NO -**Go to step 11.

10. Release the brake pedal, and measure the voltage between shift lock solenoid connector terminals No. 1 and No. 2. The shift lever must be in P.

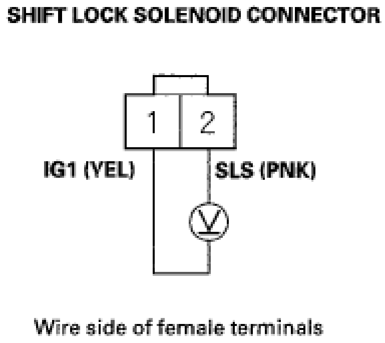

SHIFT LOCK SOLENOID CONNECTOR
1
2
IG1 (YEL)
SLS (PNK)
V
Wire side of female terminals

**Fig. 336: Measuring Voltage Between Shift Lock Solenoid Connector**

**Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES -**Repair short to body ground in the wire between PCM connector terminal A27 and the shift lock solenoid.

**NO -**Check the shift lock mechanism. If the mechanism is OK, replace the shift lock solenoid (see **SHIFT LOCK SOLENOID REPLACEMENT** ).

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector A (44P).
14. Check for continuity between PCM connector terminal A27 and shift lock solenoid connector terminal No. 2.

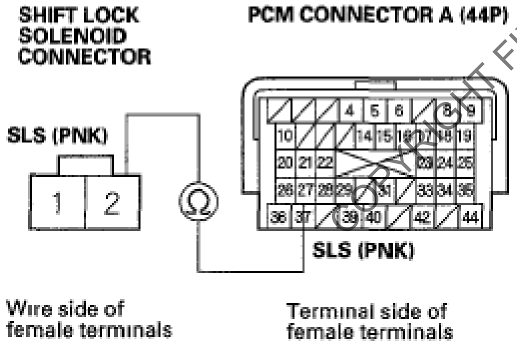

SHIFT LOCK SOLENOID CONNECTOR
PCM CONNECTOR A (44P)
SLS (PNK)
1
2
Ω
SLS (PNK)
Wire side of female terminals
Terminal side of female terminals

**Fig. 337: Checking Continuity Between PCM Connector Terminal A27 And Shift Lock Solenoid Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

**NO -**Repair open in the wire between PCM connector terminal A27 and the shift lock solenoid connector.

15. Press the brake pedal.

    *Are the brake lights ON?*

    **YES -**Go to step 16.

    **NO -**Repair faulty brake light circuit.

16. Turn the ignition switch to LOCK (0).
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector A (44P).
19. Measure the voltage between PCM connector terminal A40 and body ground while pressing the brake pedal and when the brake pedal is released.

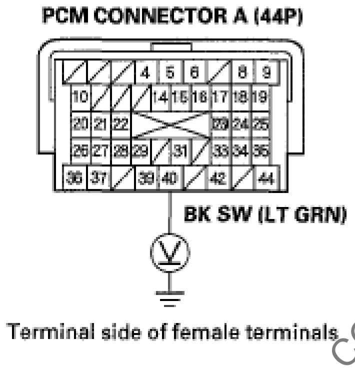

PCM CONNECTOR A (44P)
4
5
6
8
9
10
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
31
33
34
35
36
37
39
40
42
44
BK SW (LT GRN)
V
Terminal side of female terminals

**Fig. 338: Measuring Voltage Between PCM Connector Terminal A40 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage while the brake pedal is pressed, and no voltage when the pedal is released?*

**YES -**Go to step 21.

**NO -**Go to step 20.

20. Check for continuity between PCM connector terminal A40 and brake pedal position switch 4P connector terminal No. 2.

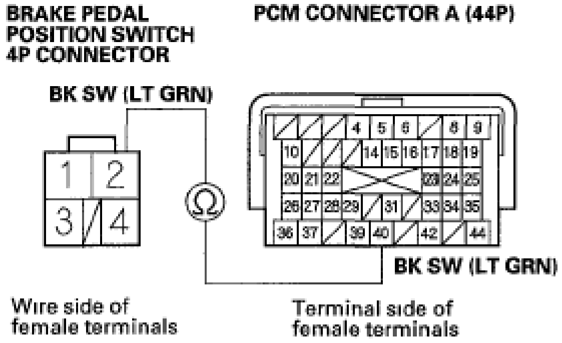

BRAKE PEDAL POSITION SWITCH 4P CONNECTOR
PCM CONNECTOR A (44P)
BK SW (LT GRN)
1
2
3
4
Ω
BK SW (LT GRN)
Wire side of female terminals
Terminal side of female terminals

**Fig. 339: Checking Continuity Between PCM Terminal A40 And Brake Pedal Position Switch 4P Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

**NO** -Repair open in the wire between PCM connector terminal A40 and the brake pedal position switch.

21. Connect PCM connector A (44P).
22. Disconnect the transmission range switch connector.
23. Turn the ignition switch to ON (II).
24. Measure the voltage between transmission range switch connector terminals No. 6 and No. 10.

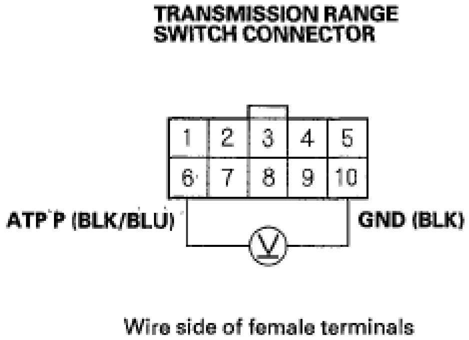

TRANSMISSION RANGE SWITCH CONNECTOR
1
2
3
4
5
6
7
8
9
10
ATP P (BLK/BLU)
GND (BLK)
V
Wire side of female terminals

**Fig. 340: Measuring Voltage Between Transmission Range Switch Connector Terminals 6 And 10**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES -**Go to step 30.

**NO -**Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector B (44P).
27. Check for continuity between PCM connector : terminal B13 and body ground.

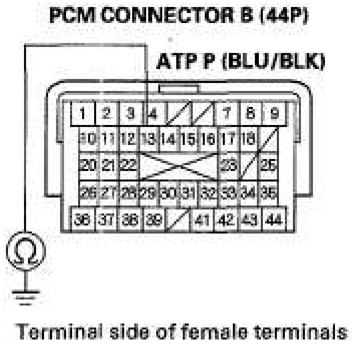

PCM CONNECTOR B (44P)
ATP P (BLU/BLK)
1 2 3 4 7 8 9
10 11 12 13 14 15 16 17 18
20 21 22 23 25
26 27 28 29 30 31 32 33 34 35
36 37 38 39 41 42 43 44
Terminal side of female terminals

**Fig. 341: Checking Continuity Between PCM Connector Terminal B13 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between PCM connector terminal B13 and the transmission range switch.

**NO -**Go to step 28.

28. Check for continuity between PCM connector terminal B13 and transmission range switch connector terminal No. 6.

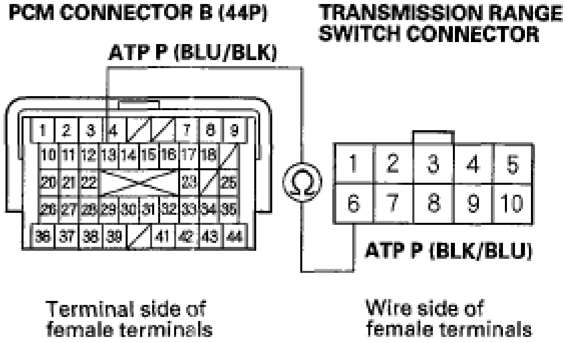

PCM CONNECTOR B (44P)
ATP P (BLU/BLK)
TRANSMISSION RANGE SWITCH CONNECTOR
ATP P (BLK/BLU)
Terminal side of female terminals
Wire side of female terminals

**Fig. 342: Checking Continuity Between PCM Connector Terminal B13 And Transmission Range Switch Connector Terminal 6**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Go to step 29.

**NO -**Repair open in the wire between PCM connector terminal B13 and the transmission range switch.

29. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

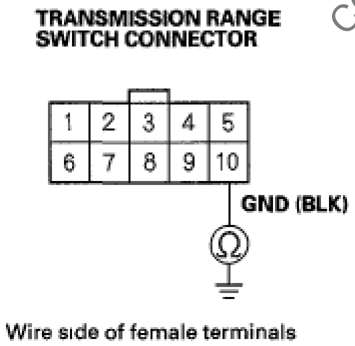

TRANSMISSION RANGE SWITCH CONNECTOR
GND (BLK)
Wire side of female terminals

**Fig. 343: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck

**NO -**Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101).

30. Test the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

    *Is the switch OK?*

    **YES -**Go to step 30.

    **NO -**Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ).

31. Connect the HDS to the DLC.
32. Check the accelerator pedal position sensor 1 in the DATA LIST with the HDS. Do not press the accelerator.

    *Is the accelerator pedal position sensor 1 opening 11 % and above, or the sensor 1 voltage 0.90 V and above?*

    **YES -**Check the APP Sensor (see **APP SENSOR SIGNAL INSPECTION** ).

    **NO -**Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

### KEY INTERLOCK SYSTEM CIRCUIT TROUBLESHOOTING

SRS components are located in this area. Review the SRS component locations, 4-door (see **COMPONENT LOCATION INDEX** ), 2-door (see **COMPONENT LOCATION INDEX** ), and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) before doing repair or service.

1. Turn the ignition switch to ACCESSORY (I). The shift lever must be in P.
2. Disconnect the steering lock assembly connector.
3. Check if the ignition switch can be turned to the LOCK (0) position.

*Can the ignition switch be turned the LOCK (0) position?*

**YES -**Go to step 4.

**NO -**Replace the ignition key cylinder/steering lock assembly (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).

4. Turn the ignition switch to LOCK (0).
5. Move the shift lever out of P.
6. Check for continuity between steering lock assembly connector terminal No. 3 and body ground.

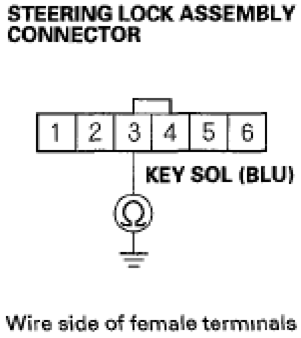

STEERING LOCK ASSEMBLY CONNECTOR
1
2
3
4
5
6
KEY SOL (BLU)
Ω
Wire side of female terminals

**Fig. 344: Checking Continuity Between Steering Lock Assembly Connector Terminal 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between the key interlock solenoid and the MICU.

**NO -**Go to step 7.

7. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
8. Check for continuity between park pin switch/A/T gear position indicator panel light connector terminal No. 3 and body ground.

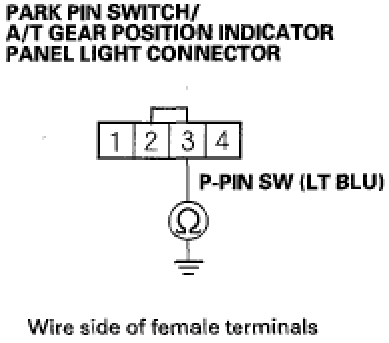

PARK PIN SWITCH/
A/T GEAR POSITION INDICATOR
PANEL LIGHT CONNECTOR
1
2
3
4
P-PIN SW (LT BLU)
Wire side of female terminals

**Fig. 345: Checking Continuity Between Park Pin Switch/A/T Gear Position Indicator Panel Light Connector Terminal 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES -**Repair short to body ground in the wire between park pin switch/A/T gear position indicator panel light connector terminal No. 3 and the MICU.

**NO -**Go to step 9.

9. Shift to P.
10. Check for continuity between park pin switch/A/T gear position indicator panel light connector terminals No. 3 and No. 4. Do not push the shift lever button.

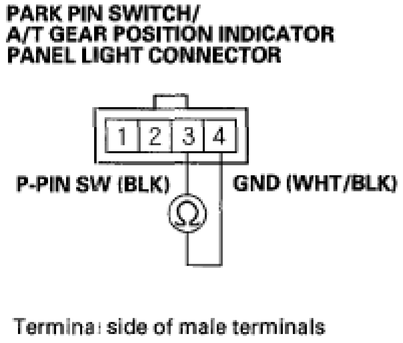

PARK PIN SWITCH/
A/T GEAR POSITION INDICATOR
PANEL LIGHT CONNECTOR
1
2
3
4
P-PIN SW (BLK)
GND (WHT/BLK)
Terminal side of male terminals

**Fig. 346: Checking Continuity Between Park Pin Switch/A/T Gear Position Indicator Panel Light Connector Terminals 3 And 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the park pin switch (see **A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT** ).

**NO** -Substitute 8 known-good MICU and recheck.

### SHIFT LOCK SOLENOID TEST

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

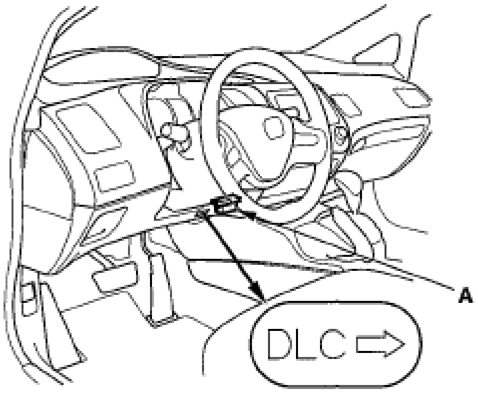


**Fig. 347: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Lock Solenoid Test in the Miscellaneous Test Menu, and check that the shift lock solenoid operates with the HDS.
4. Make sure that the shift lever can be moved out of P when Shift Lock Solenoid is ON. Move the shift lever back in P, and make sure it locks when Shift Lock Solenoid is OFF.
5. Make sure that the shift lock releases when the shift lock release is pushed, and check that it locks when the shift lock release is released.
6. If the shift lock solenoid does not work properly, go to the shift lock system troubleshooting (see **SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).

## SHIFT LOCK SOLENOID REPLACEMENT

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Remove the shift lock solenoid connector.
3. Release the shift lock solenoid lock (A), then remove the shift lock solenoid (B).

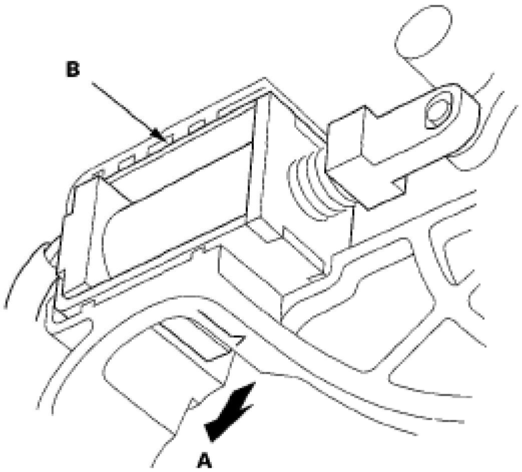


**Fig. 348: Removing Shift Lock Solenoid Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Replace the shift lock solenoid (A), solenoid plunger (B), and plunger spring (C) assembly.

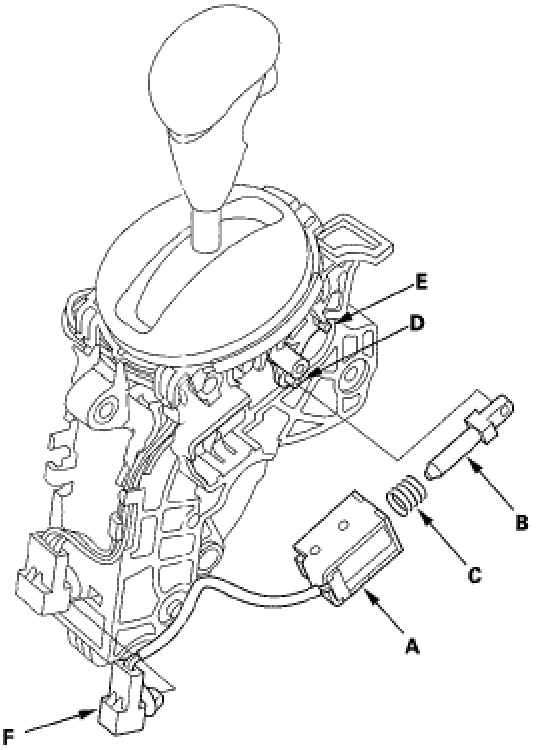


**Fig. 349: Identifying Shift Lock Solenoid, Solenoid Plunger And Plunger Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Apply silicone grease to the tip (D) of the shift lock stop (E), and install a new shift lock solenoid assembly by aligning the joint of the shift lock solenoid plunger with the tip of the shift lock stop.
6. Route the shift lock solenoid harness in the guide, and install the connector (F) on the bracket base.
7. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).

### SHIFT LOCK STOP, SHIFT LOCK STOP CUSHION REPLACEMENT

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Release the shift lock solenoid lock (A), then remove the shift lock solenoid (B).

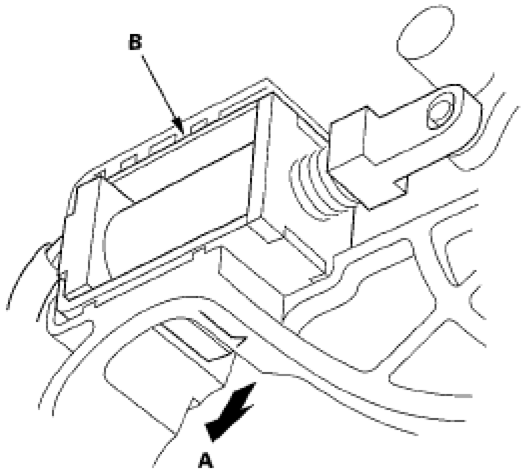


**Fig. 350: Removing Shift Lock Solenoid Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the shift lock release (A) and release the spring (B).

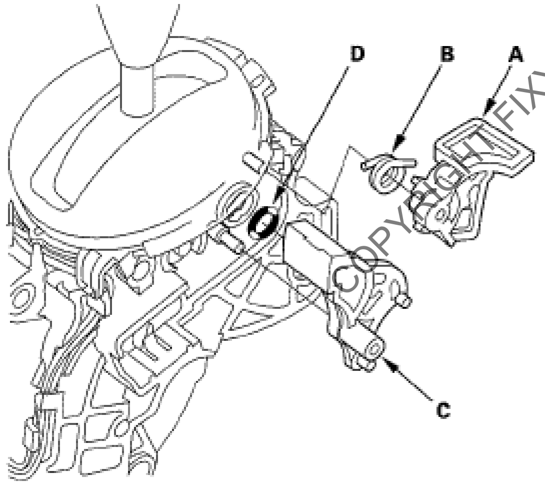


**Fig. 351: Identifying Shift Lock Stop And Stop Cushion**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the shift lock stop (C) and the stop cushion (D), and replace the shift lock stop or the stop cushion.
5. Install the shift lock stop cushion on the shift lock stop.
6. Apply silicone grease to the pin on the shift lever bracket base, and install the shift lock stop over the pin.
7. Install the shift lock release spring and the shift lock release, apply silicone

grease to the shift lock release mounting tip if necessary.

8. Apply silicone grease to the tip of the shift lock stop, and install the shift lock solenoid assembly by aligning the joint of the shift lock solenoid plunger with the tip of the shift lock stop.
9. Route the shift lock solenoid harness in the guide.
10. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).

**PARK PIN SWITCH TEST**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Move the shift lever into P, and check for continuity between park pin switch/A/T gear position indicator panel light connector terminals No. 3 and No. 4. There should be no continuity.

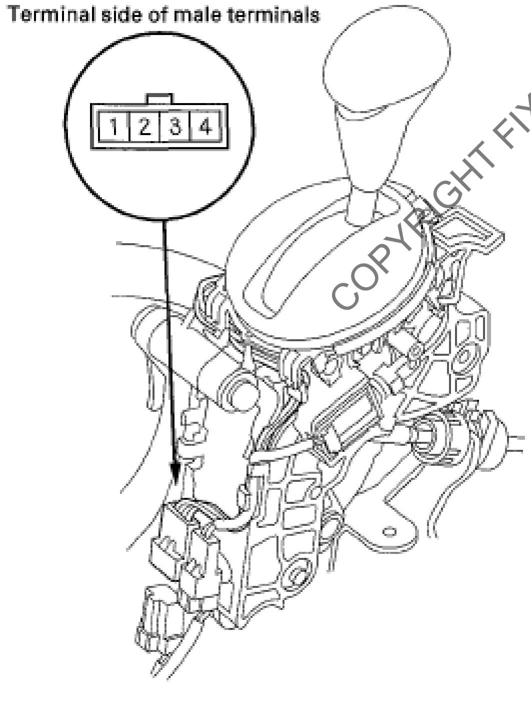


**Fig. 352: Identifying A/T Gear Position Indicator Panel Light Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Shift out of P, and check for continuity between connector terminals No. 3 and No. 4. There should be continuity.

4. If the park pin switch tests OK, install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

   If the park pin switch fails the test, replace the park pin switch (see **A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT** ).

## TRANSMISSION END COVER

### END COVER REMOVAL

### Special Tools Required

Mainshaft holder 07GAB-PF50101 or 07GAB-PF50100

1. Remove the ATF dipstick.
2. Remove the five bolts (D) securing the ATF inlet line brackets, the ATF filter bracket bolts (E), the line bolt and the sealing washers, and remove the ATF inlet line, the ATF hose, and the ATF filter (F).

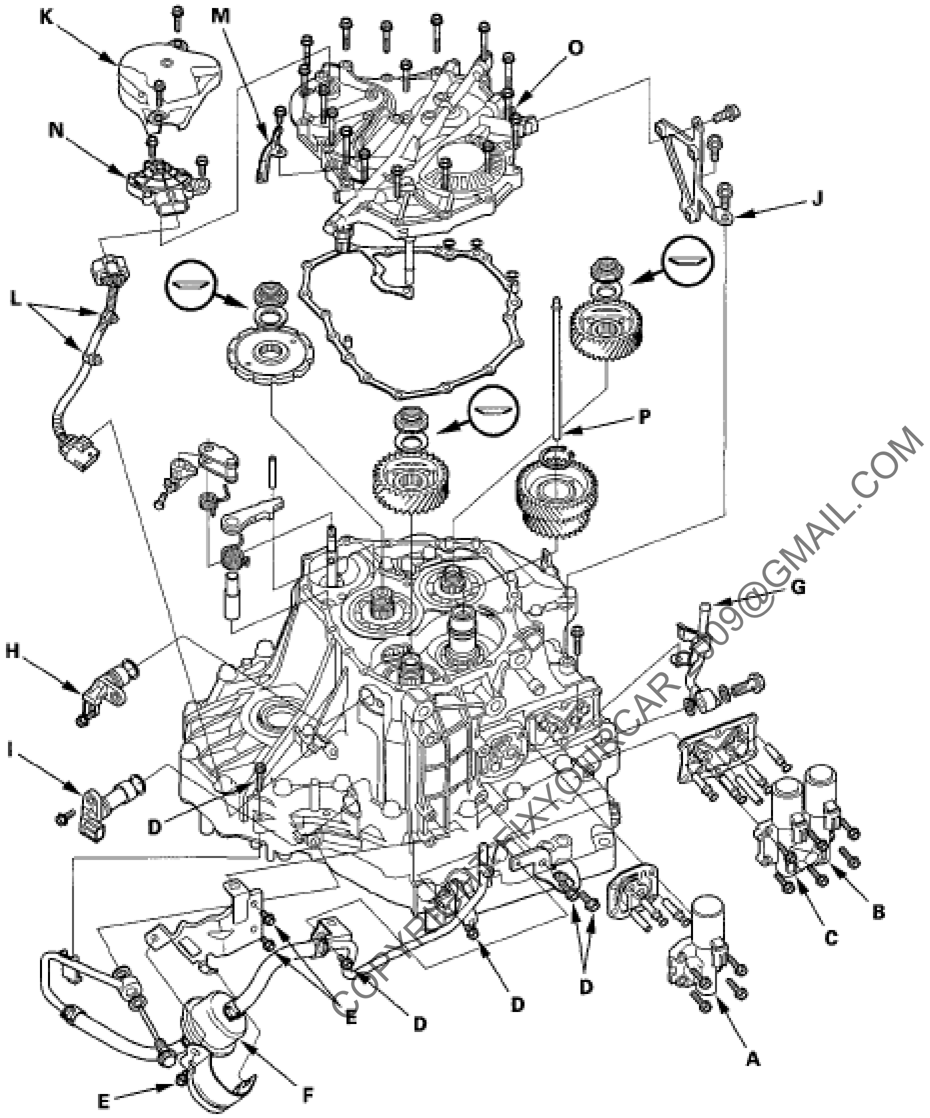


**Fig. 353: Disassembling Transmission**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF outlet line bolt, the line mounting bolt, the sealing washers, and the ATF outlet line (G).
4. Remove A/T clutch pressure control solenoid valve A, the ATF joint pipes, the O-rings, the ATF pipe, and the gasket.
5. Remove A/T clutch pressure control solenoid valves B and C, the O-rings, the ATF pipe, the ATF joint pipes, and the gasket.
6. Remove the input shaft (mainshaft) speed sensor (H) and the output shaft (countershaft) speed sensor (I).

7. Remove the ATF warmer bracket (J).
8. Remove the transmission range switch cover (K).
9. Remove the transmission range switch harness clamps (L) from the clamp bracket (M), then remove the transmission range switch (N).
10. Remove the clamp bracket from the end cover (O).
11. Remove the end cover, the dowel pins, the O-rings, and the end cover gasket.
12. Remove the ATF lubrication pipe (P) from the idler gear shaft.
13. Slip the mainshaft holder onto the mainshaft.

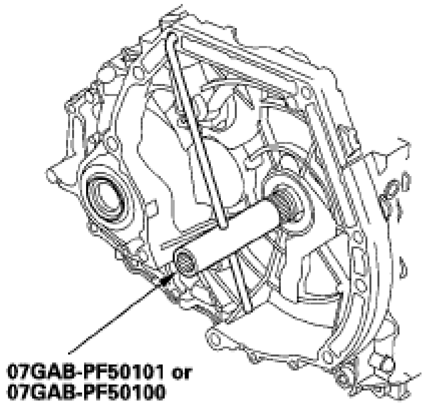


**Fig. 354: Identifying Mainshaft Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Engage the park pawl with the park gear.
15. Cut the lock tab (A) of the each shaft locknut (B) using a chisel (C). Then remove the locknuts and conical spring washers from each shaft.

**NOTE:**

- **Countershaft and secondary shaft locknuts have left-hand threads.**
- **Keep all of the chiseled particles out of the transmission.**
- **Clean the old locknuts; they are used to install the press fit idler gears and park gear.**

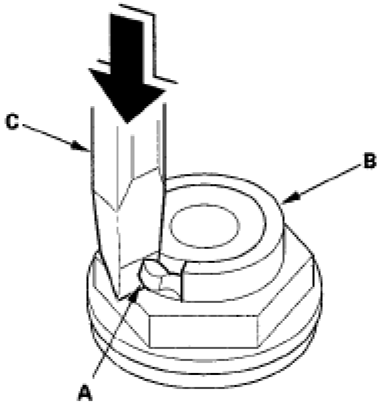


**Fig. 355: Cutting Lock Tab**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the snap ring securing the idler gear to the idler gear shaft.
17. Install 6 x 1.0 mm bolts (A) on the idler gear shaft idler gear (B). Set a puller (C) on the idler gear shaft (D) with putting a spacer (E) between the puller and the idler gear shaft, then remove the idler gear shaft idler gear.

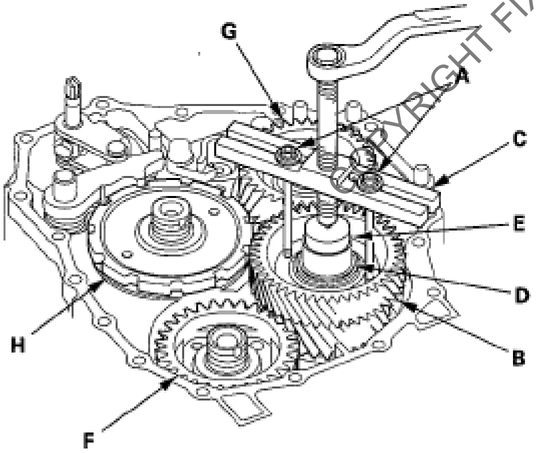


**Fig. 356: Removing Idler Gear Shaft Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Set the puller, 6 x 1.0 mm bolts, and spacer on the secondary shaft idler gear (F), and remove the secondary shaft idler gear from the secondary shaft in the same manner as the removal of the idler gear shaft idler gear.
19. Set the puller, 6 x 1.0 mm bolts, and spacer on the mainshaft idler gear (G), and remove the mainshaft idler gear from the mainshaft in the same manner as

the removal of the idler gear shaft idler gear.

20. Set the puller, 6 x 1.0 mm bolts, and spacer on the park gear (H), and remove the park gear from the countershaft in the same manner as the removal of the idler gear shaft idler gear.
21. Remove the park pawl, the park pawl spring, the park pawl shaft, and the stop shaft.
22. Remove the park lever from the selector control shaft.

### PARK LEVER STOP INSPECTION AND ADJUSTMENT

1. Set the park lever in the P position.
2. Measure the distance (A) between the park pawl shaft center (B) and the extension line (C) connected centers of the park lever roller pin (D) and the control shaft (E) in the vertical direction from the extension line.

   **Standard: 46.8-47.8 mm (1.84-1.88 in.)**

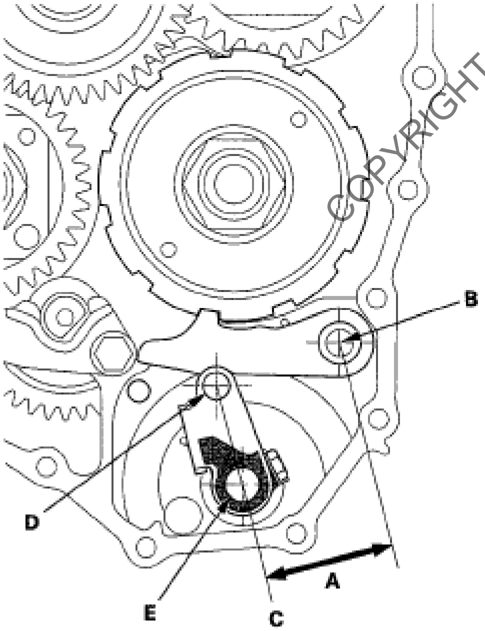


**Fig. 357: Measuring Distance Between Park Pawl Shaft Center And Extension Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the measurement is out of standard, select and install the appropriate park

lever stop (A) from the table.

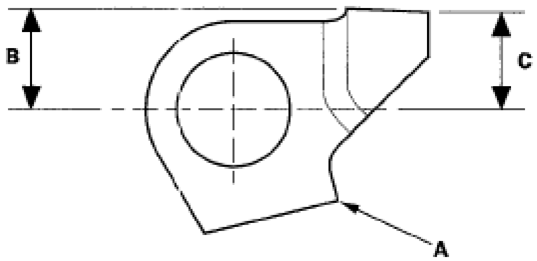


**Fig. 358: Identifying Park Lever Stop Measurement**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PARK LEVER STOP**

**PART NUMBER REFERENCE**

| Mark | Part Number | B | C |
|---|---|---|---|
| 1 | 24537-PA9-003 | 11.00 mm (0.433 in.) | 11.00 mm (0.433 in.) |
| 2 | 24538-PA9-003 | 10.80 mm (0.425 in.) | 10.65 mm (0.419 in.) |
| 3 | 24539-PA9-003 | 10.60 mm (0.417 in.) | 10.30 mm (0.406 in.) |

4. After replacing the park lever stop, make sure the distance is within tolerance.

### IDLER GEAR SHAFT BEARING REPLACEMENT

## Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 52 x 55 mm 07746-0010400

1. Remove the idler gear shaft bearing from the end cover using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

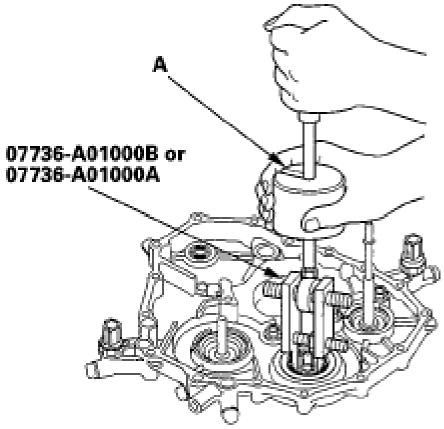

A
07736-A01000B or
07736-A01000A

**Fig. 359: Identifying Idler Gear Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new bearing in the end cover using the driver and the 52 x 55 mm attachment.

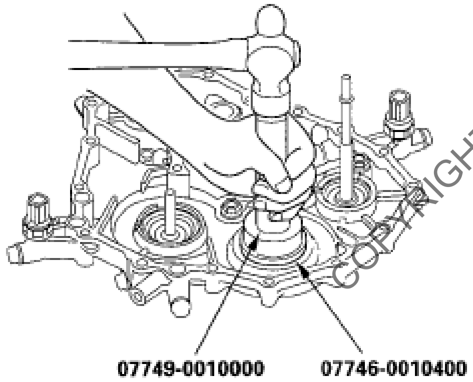

07749-0010000
07746-0010400

**Fig. 360: Tapping Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### SELECTOR CONTROL SHAFT OIL SEAL REPLACEMENT

## Special Tools Required

- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the oil seal from the end cover.

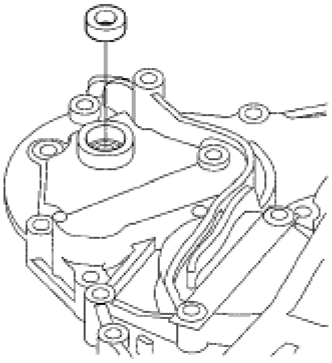


**Fig. 361: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new oil seal flush to the end cover using the driver and the 22 x 24 mm attachment.

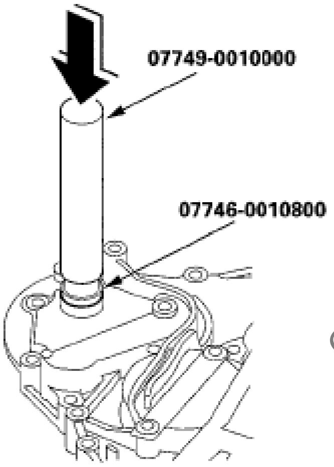


**Fig. 362: Pressing Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### SELECTOR CONTROL SHAFT BEARING REPLACEMENT

## Special Tools Required

- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the oil seal from the end cover.

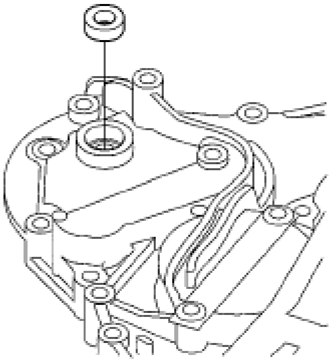


**Fig. 363: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the selector control shaft bearing from the end cover.

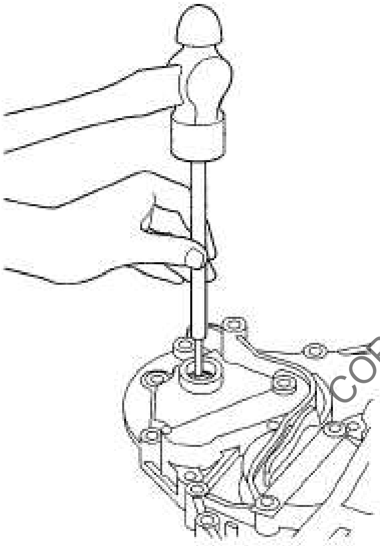


**Fig. 364: Tapping Selector Control Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new bearing flush to the end cover using the driver and the 22 x 24 mm attachment.

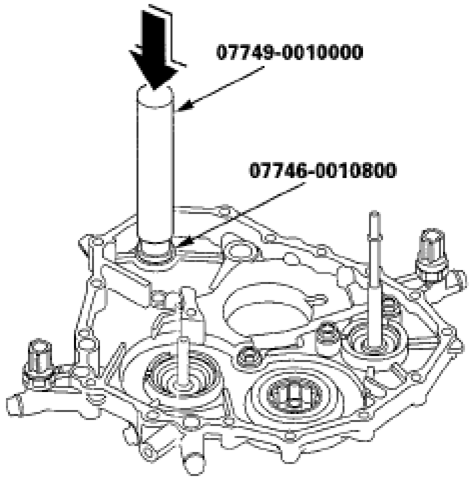

07749-0010000
07746-0010800

**Fig. 365: Pressing Bearing Flush**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new oil seal flush to the end cover using the driver and the 22 x 24 mm attachment.

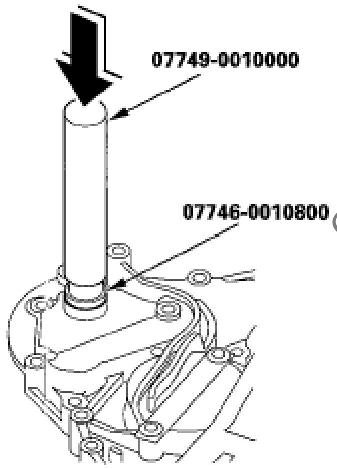

07749-0010000
07746-0010800

**Fig. 366: Pressing Oil Seal Flush**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### ATF FEED PIPE REPLACEMENT

1. Remove the snap ring (A), the 3rd clutch feed pipe (B), and the feed pipe flange (C) from the end cover (D).

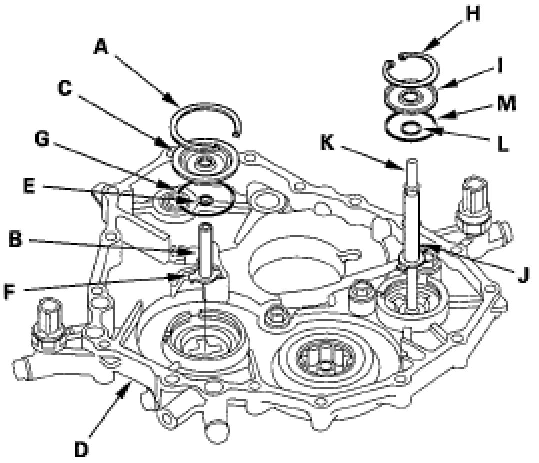


**Fig. 367: Identifying Snap Ring, 3rd Clutch Feed Pipe And Feed Pipe Flange**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new O-ring (E) over a new 3rd clutch feed pipe.
3. Install the 3rd clutch feed pipe in the end cover by aligning the feed pipe tabs (F) with the indentations in the end cover.
4. Install a new O-ring (G) in the end cover, then install the feed pipe flange over the 3rd clutch feed pipe.
5. Secure the 3rd clutch feed pipe and the feed pipe flange with the snap ring.
6. Remove the snap ring (H) and feed pipe flange (I).
7. Check the 4th clutch feed pipe (J) and 2nd clutch feed pipe (K) for scoring and damage. Replace the end cover, if the feed pipes are scored or damaged.
8. Install a new O-ring (L) over a new 4th clutch feed pipe.
9. Install a new O-ring (M) in the end cover, then install the feed pipe flange over the 4th clutch feed pipe.
10. Secure the 4th clutch feed pipe and feed pipe flange with the snap ring.

### TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Remove the 2nd clutch transmission fluid pressure switch (A).

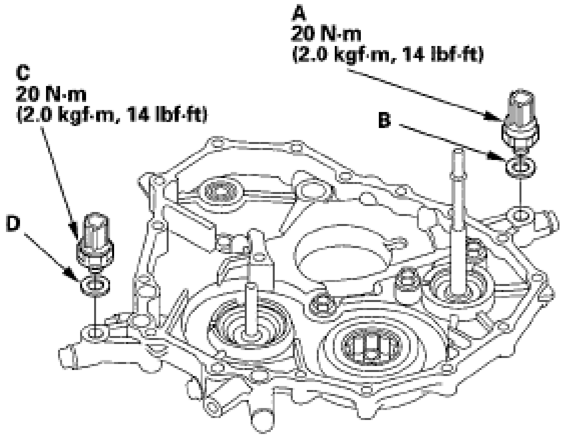


**Fig. 368: Identifying 2nd Clutch Transmission Fluid Pressure Switch, 3rd Clutch Transmission Fluid Pressure Switch & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure there is no water, oil, dust, or foreign particles inside the connector.
3. Install a new 2nd clutch transmission fluid pressure switch and a new sealing washer (B), then tighten the switch to the specified torque on the metal part, not the plastic part.
4. Remove the 3rd clutch transmission fluid pressure switch (C).
5. Make sure there is no water, oil, dust, or foreign particles inside the connector.
6. Install a new 3rd clutch transmission fluid pressure switch and a new sealing washer (D), then tighten the switch to the specified torque on the metal part, not the plastic part.

## AIR CHECK VALVE INSPECTION AND REPLACEMENT

1. Check the air check valve filter for clogging. If the filter is clogged, remove the air check valve (A), and clean the filter thoroughly by pouring clean ATF. Do not blow out the filter with compressed air. Replace the air check valve, if the filter or check valve (ball) is clogged or damaged.

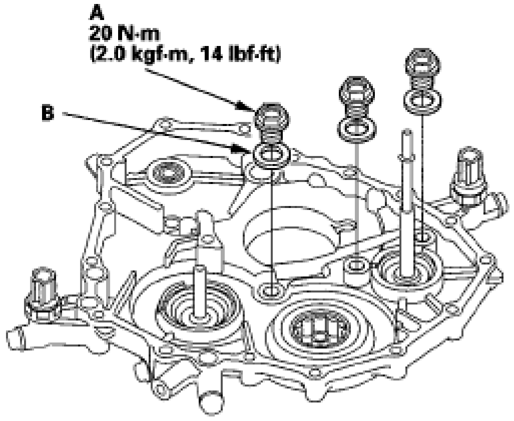


**Fig. 369: Identifying Air Check Valve, Sealing Washer & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the air check valve and a new sealing washer (B).

## TRANSMISSION HOUSING

### HOUSING AND SHAFT ASSEMBLY REMOVAL

### Special Tools Required

Housing puller 07HAC-PK40102

1. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

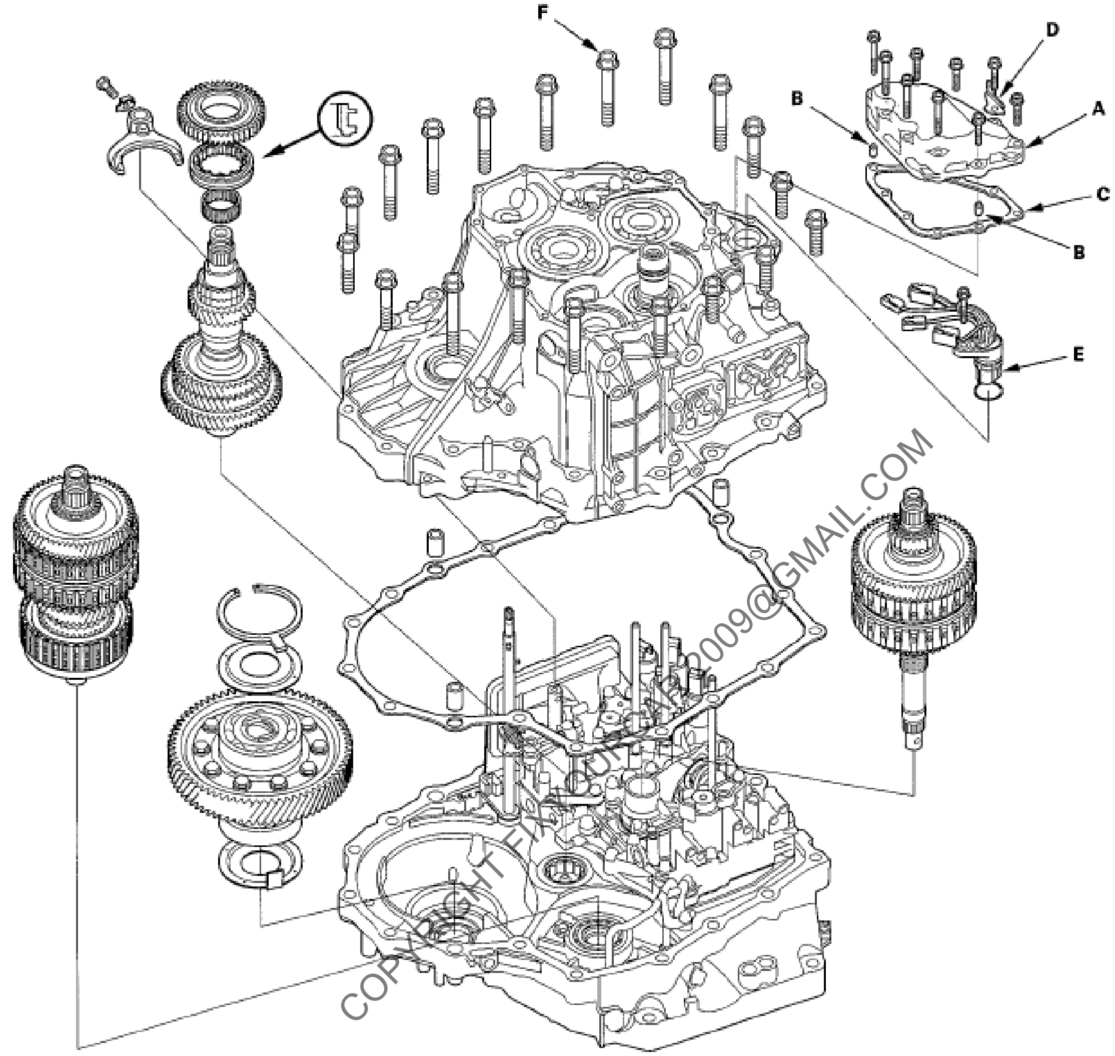


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**Fig. 370: Disassembling Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Disconnect the connectors from the shift solenoid valves, and remove the solenoid harness connector (E).
3. Remove the transmission housing mounting bolts (F) (19).
4. Align the spring pin (A) on the selector control shaft (B) with the transmission housing groove (C) by turning the selector control shaft with the detent plate.

**NOTE: Do not squeeze the end of the selector control shaft tips together when turning the control shaft.**

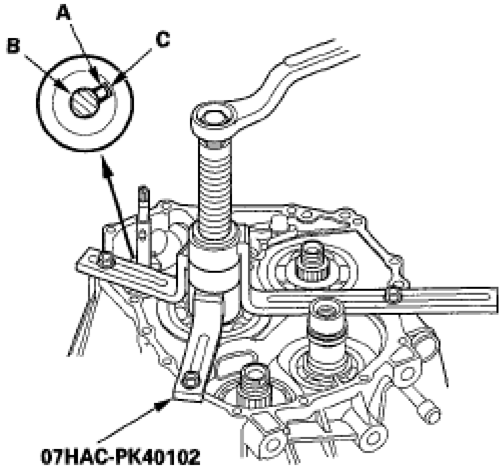

**Fig. 371: Aligning Spring Pin On Selector Control Shaft With Transmission Housing Groove**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the housing puller over the countershaft, then remove the transmission housing.

**NOTE:** **If the top arm of your housing puller is too short, replace it with housing puller arm, 205 mm 07SAC-P0Z0101.**

6. Remove the countershaft reverse gear and the needle bearing.
7. Remove the lock bolt securing the shift fork, then remove the shift fork with the reverse selector together.
8. Remove the mainshaft subassembly (A), the countershaft subassembly (B), and the secondary shaft subassembly (C) together. If the reverse selector hub is removed by hand, remove the 4th-5th gear and the needle bearings, and remove the mainshaft subassembly. Then remove the countershaft subassembly and the secondary shaft subassembly together.

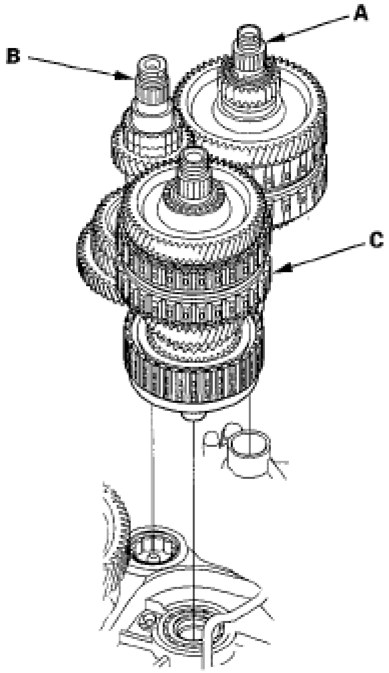

**Fig. 372: Identifying Mainshaft Subassembly, Countershaft Subassembly And Secondary Shaft Subassembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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9. Remove the differential assembly.

**BEARING REMOVAL**

## Special Tools Required

- Attachment, 72 x 75 mm 07746-0010600
- Attachment, 78 x 80 mm 07NAD-PX40100
- Attachment, 62 x 68 mm 07746-0010500
- Driver 07749-0010000

1. Remove the snap ring (A), the cotter retainer (B), and the cotters (C) from the idler gear shaft (D), then remove the idler gear shaft. Do not distort the snap ring.

**NOTE:** **If you are not removing the idler gear shaft bearing, idler gear shaft removal is not needed.**

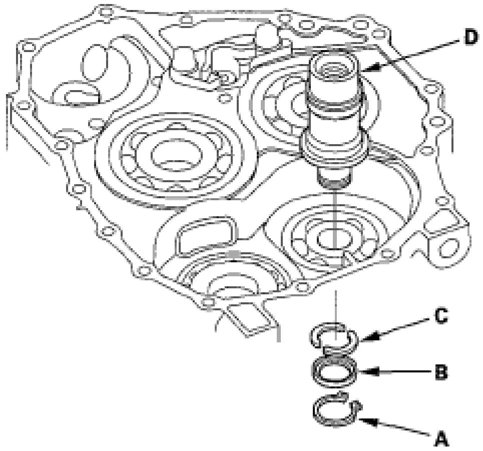

Fig. 373: Identifying Snap Ring, Cotter Retainer And Cotters
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. To remove the mainshaft bearing (A), the countershaft bearing (B), the secondary shaft bearing (C), and the idler gear shaft bearing (D) from the transmission housing, expand each snap ring using snap ring pliers, then push the bearing out using the driver and the attachment.

**NOTE: Do not remove the snap ring unless it is necessary to clean the grooves in the housing.**

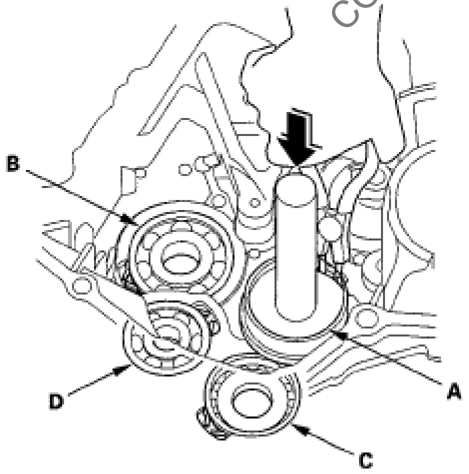

Fig. 374: Removing Mainshaft Bearing
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## BEARING INSTALLATION

## Special Tools Required

- Attachment, 72 x 75 mm 07746-0010600
- Attachment, 78 x 80 mm 07NAD-PX40100
- Attachment, 62 x 68 mm 07746-0010500
- Driver 07749-0010000

1. Install the mainshaft bearing (A), the countershaft bearing (B), the secondary shaft bearing (C), and the idler gear shaft bearing (D) in the transmission housing in the direction shown.

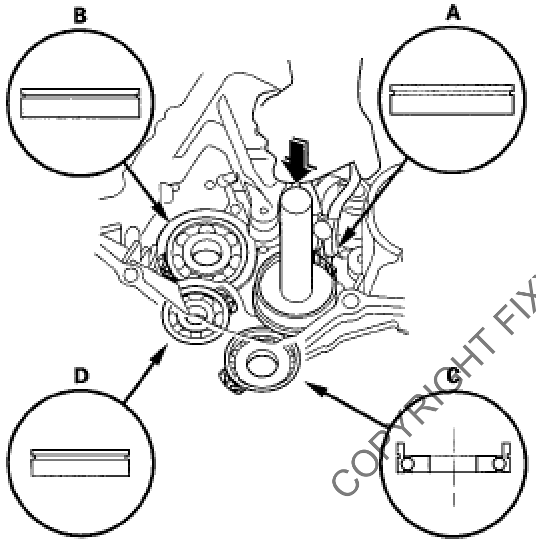

**Fig. 375: Installing Mainshaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Expand each snap ring using snap ring pliers, and install the bearing part-way into the housing.
3. Release the pliers, then push the beating down into the housing using the driver and the attachment until the snap ring snaps in place around it.
4. After installing the bearings check that the snap rings (A) are seated in the bearing and housing grooves, and that the ring end gaps (B) are 0-7 mm (0-0.28 in.)

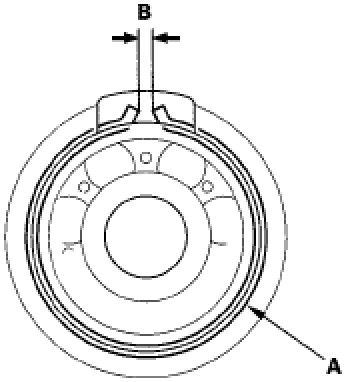

Fig. 376: Identifying Snap Ring Gap
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the idler gear shaft (A) in the idler gear shaft bearing.

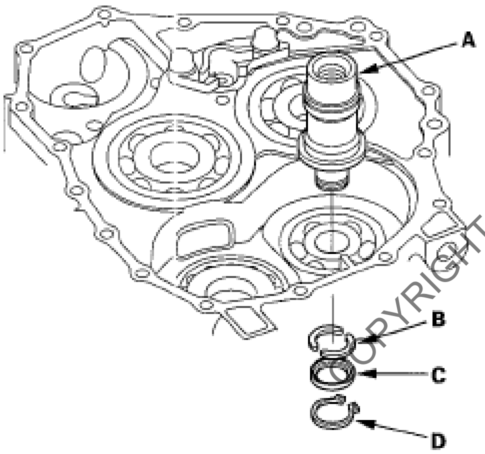

Fig. 377: Identifying Idler Gear Shaft, Cotters And Cotter Retainer
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the cotters (B) and the cotter retainer (C), and secure the idler gear shaft with the snap ring (D).

### REVERSE IDLER GEAR REMOVAL

1. Remove the bolts (A) securing the reverse idler gear shaft holder (B).

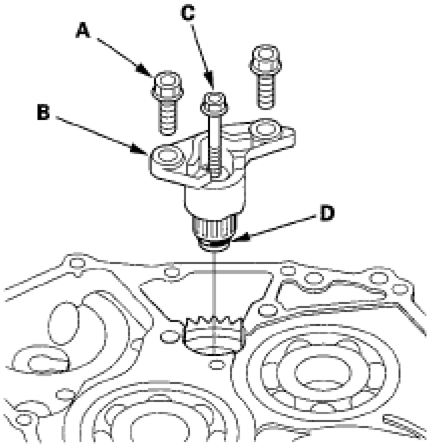

**Fig. 378: Identifying Idler Gear Shaft Holder And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a 5 x 0.8 mm bolt (C) in the reverse gear shaft, and pull it to remove the reverse idler gear shaft (D) and the reverse idler gear shaft holder together.
3. Remove the reverse idler gear.

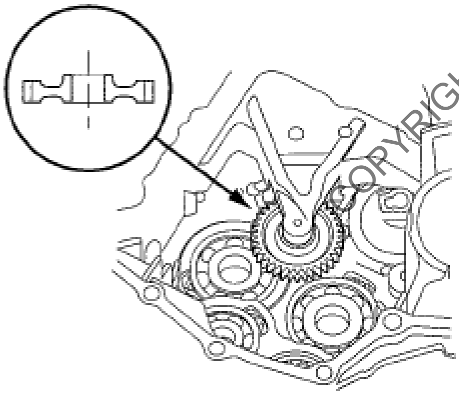

**Fig. 379: Removing Reverse Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### REVERSE IDLER GEAR INSTALLATION

1. Lightly coat the reverse idler gear shaft (A), the needle bearing (B), and new O-rings (C) with lithium grease.

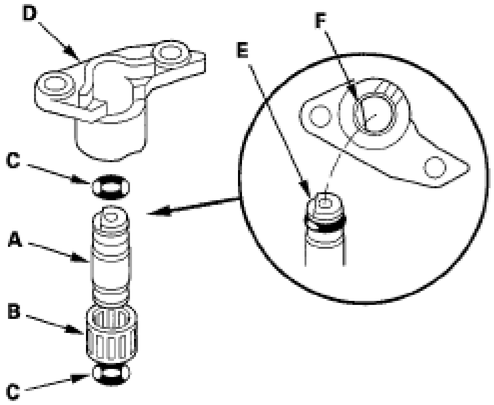

**Fig. 380: Identifying Reverse Idler Gear Shaft, Needle Bearing And O-Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Assemble new O-rings and needle bearing on the reverse idler gear shaft, then install the reverse idler gear shaft in the reverse idler gear shaft holder (D). Align the D-shaped (E) cutout of the shaft with the D-shaped area (F) of the holder.
3. Install the reverse idler gear in the transmission housing in the direction shown.

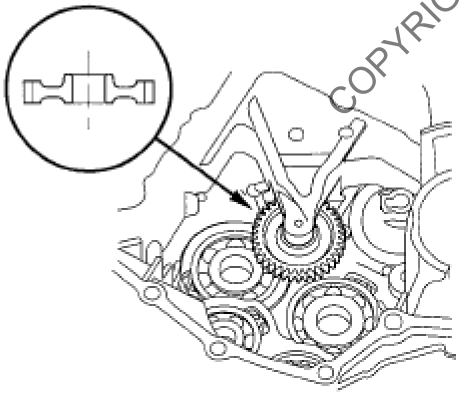

**Fig. 381: Installing Reverse Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the reverse idler gear shaft/holder assembly in the reverse idler gear.

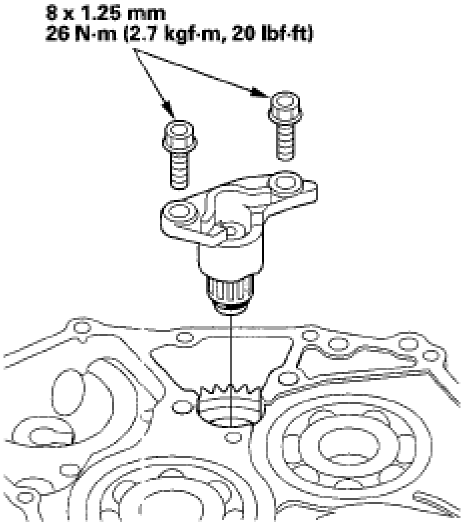

**Fig. 382: Identifying Reverse Idler Gear Shaft/Holder Assembly & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Secure the holder with the bolts.

### IDLER GEAR SHAFT REMOVAL AND INSTALLATION

1. Remove the snap ring (A), the cotter retainer (B), and the cotters (C) from the idler gear shaft (D), then remove the idler gear shaft. Do not distort the snap ring.

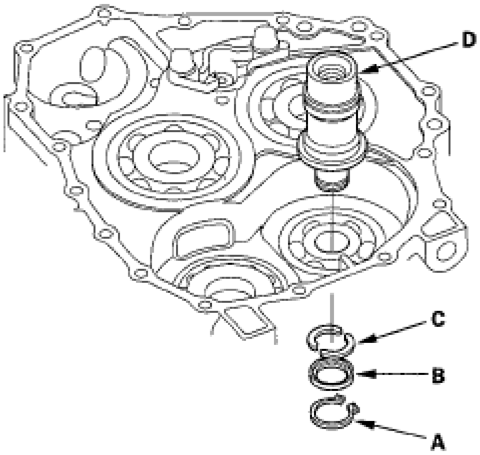

**Fig. 383: Identifying Snap Ring, Cotter Retainer, Cotters And Idler Gear Shaft**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check the snap ring and the cotter retainer for wear and damage. Replace the snap ring and/or the cotter retainer if the snap ring or the cotter retainer is worn, distorted, or damaged.
3. Install the idler gear shaft in the idler gear shaft bearing.
4. Install the cotters and the cotter retainer, and secure the idler gear shaft with the snap ring.

## VALVE BODY

### VALVE BODY AND ATF STRAINER REMOVAL

1. Remove the ATF feed pipe (A) from the regulator valve body (B).

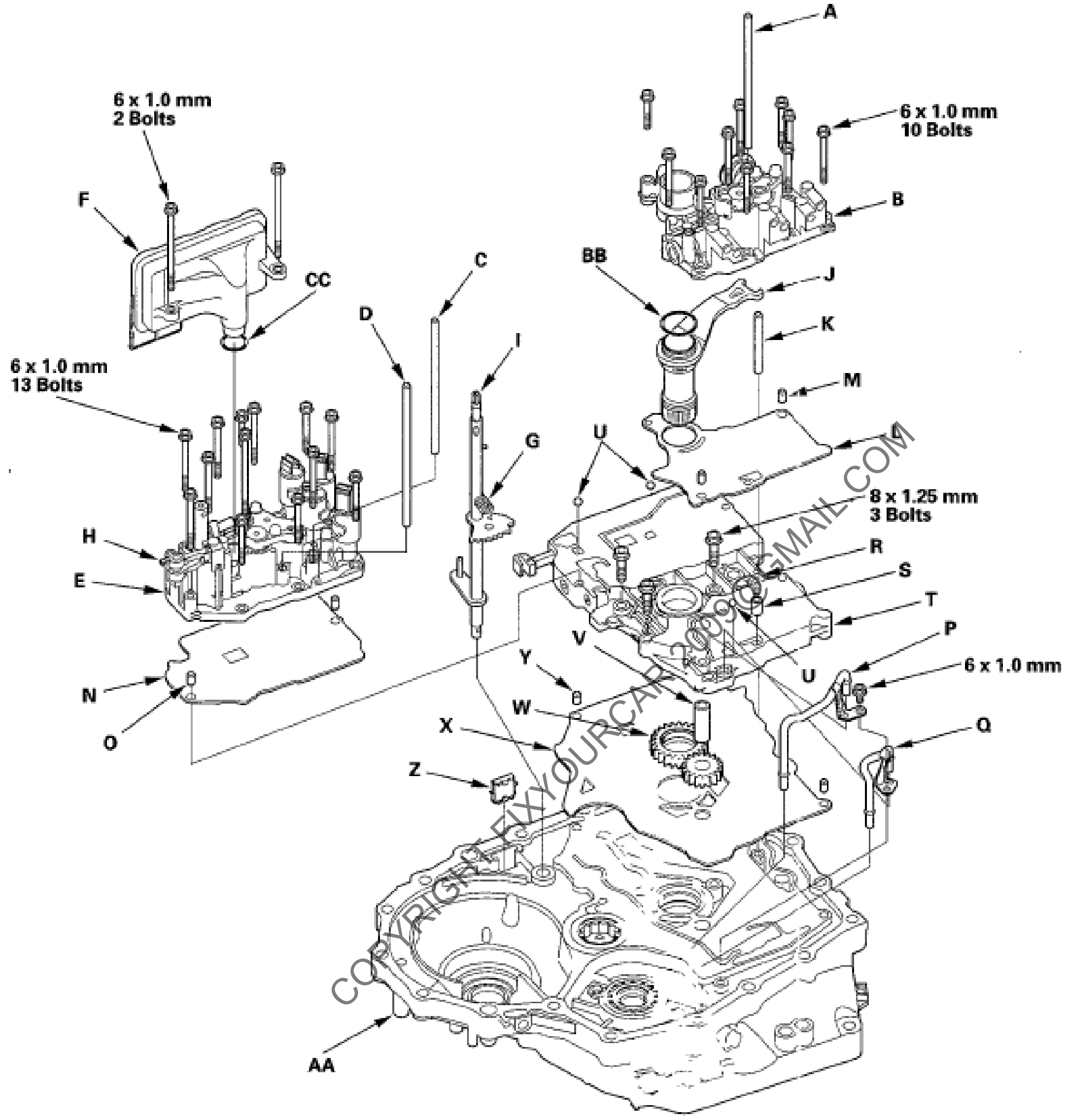
A
6 x 1.0 mm
10 Bolts
B
6 x 1.0 mm
2 Bolts
F
CC
C
D
BB
J
K
M
I
6 x 1.0 mm
13 Bolts
G
U
L
8 x 1.25 mm
3 Bolts
H
R
S
E
T
P
V
U
Y
6 x 1.0 mm
N
O
W
Q
X
Z
AA

**Fig. 384: Disassembling Valve Body And ATF Strainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the ATF feed pipes (C) (D) from the servo body (E).
3. Remove the ATF strainer (F) (two bolts).
4. Unhook the detent spring (G) from the detent arm (H), and remove the selector control shaft (I).
5. Remove the regulator valve body (10 bolts).
6. Remove the stator shaft (J) and the stator shaft stop (K), then remove the regulator separator plate (L) and the two dowel pins (M).

7. Remove the servo body (13 bolts), then remove the separator plate (N) and the two dowel pins (O).
8. Remove the ATF joint pipes (P) (Q).
9. Remove the cooler check valve spring (R) and the cooler check valve (S), then remove the main valve body (T) (three bolts). Do not let the check balls (U) fall out.
10. Remove the ATF pump driven gear shaft (V), then remove the ATF pump gears (W).
11. Remove the main separator plate (X) and the two dowel pins (Y).
12. Remove the ATF magnet (Z), clean and reinstall it in the torque converter housing (AA).
13. Remove the O-ring (BB) from the stator shaft, and remove the O-ring (CC) from the ATF strainer. Install new ones when installing the valve bodies.
14. Clean the inlet opening (A) of the ATF strainer (B) thoroughly with compressed air, then check that it is in good condition and that the inlet opening is not clogged.

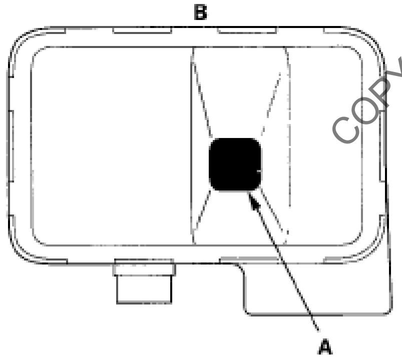

**Fig. 385: Identifying Inlet Opening Of ATF Strainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Test the ATF strainer by pouring clean ATF through the inlet opening, and replace it if it is clogged or damaged.

### VALVE BODY REPAIR

**NOTE: Valve body repair is only necessary if one or more of the**

**valves in a valve body do not slide smoothly in their bores. Use this procedure to free the valves.**

1. Soak a sheet of #600 abrasive paper in ATF for about 30 minutes.
2. Carefully tap the valve body so the sticking valve drops out of its bore. It may be necessary to use a small screwdriver to pry the valve free. Be careful not to scratch the bore with the screwdriver.
3. Inspect the valve for any scuff marks. Use the ATF-soaked #600 paper to polish off any burrs that are on the valve, then wash the valve in solvent and dry it with compressed air.
4. Roll up half of the ATF-soaked #600 paper and insert it in the valve bore of the sticking valve. Twist the paper slightly, so that it unrolls and fits the bore tightly, then polish the bore by twisting the paper as you push it in and out.

**NOTE: The valve body is aluminum and does not require much polishing to remove any burrs.**

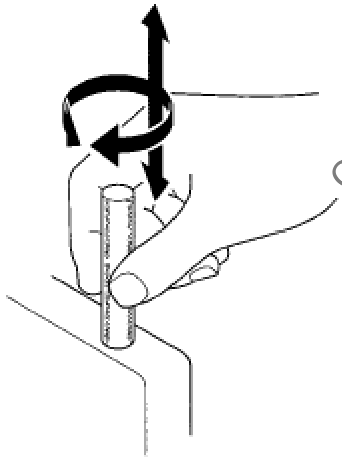

**Fig. 386: Inspecting Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the #600 paper. Thoroughly wash the entire valve body in solvent, then dry it with compressed air.
6. Coat the valve with ATF, then drop it into its bore. It should drop to the bottom of the bore under its own weight. If not, repeat steps 4 and 5, then retest. If the valve still sticks, replace the valve body.

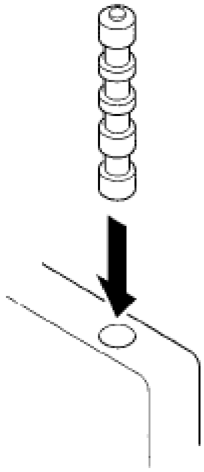

**Fig. 387: [Identifying Valve]**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the valve, and thoroughly clean it and the valve body with solvent. Dry all parts with compressed air, then reassemble using ATF as a lubricant.

### VALVE BODY VALVE INSTALLATION

1. Coat all parts with ATF before assembly.
2. Install the valves and springs in the sequence shown for the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), the regulator valve body (see **REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), and the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ). Refer to the following valve cap illustrations, and install the each valve cap so the end shown facing up will be facing the outside of the valve body, then secure the valve cap with the valve cap clip.

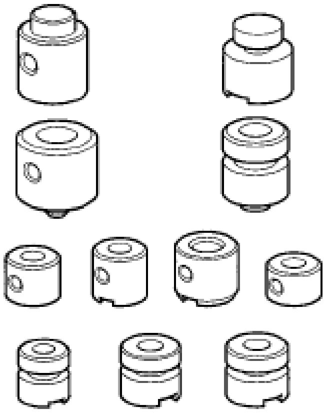

**Fig. 388: Identifying Valves And Springs**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the valve and the valve spring (A) in the valve body (B). Push the valve spring in with a screwdriver, then install the spring seat (C).

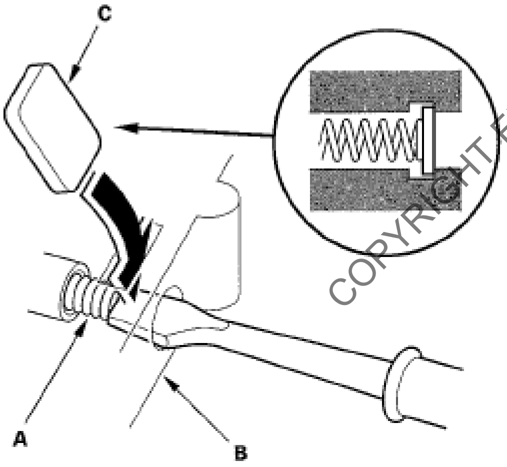

**Fig. 389: Pushing Valve Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Do not use a magnet to remove the check balls, it may magnetize the check balls.
3. Inspect the main valve body for scoring and damage.

4. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
5. Coat all parts with ATF during assembly.

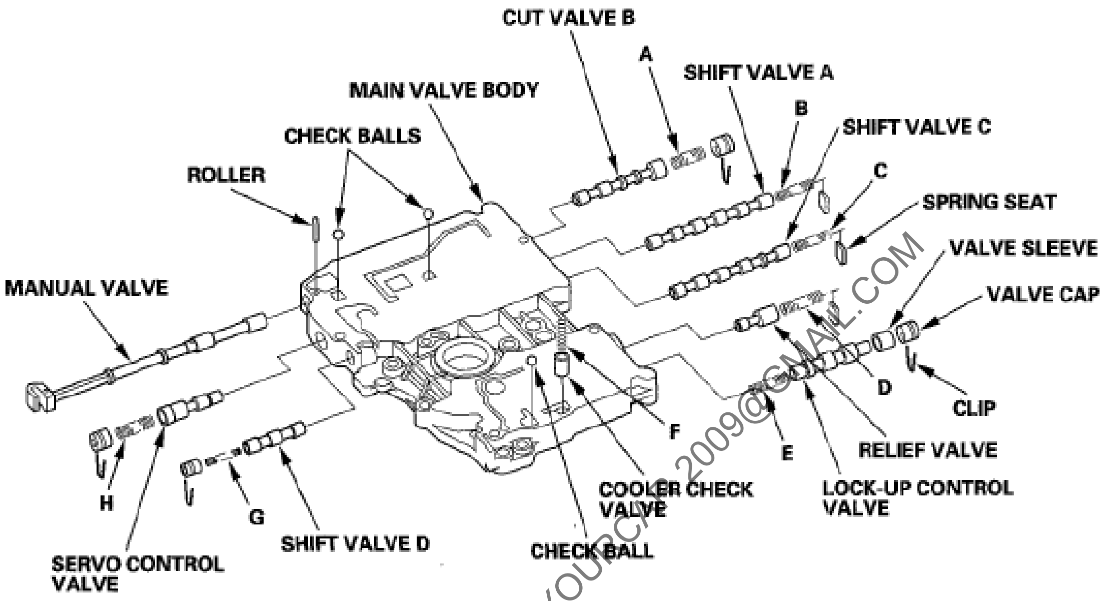
CUT VALVE B
A
SHIFT VALVE A
MAIN VALVE BODY
B
SHIFT VALVE C
CHECK BALLS
C
ROLLER
SPRING SEAT
VALVE SLEEVE
MANUAL VALVE
VALVE CAP
D
CLIP
F
E
RELIEF VALVE
COOLER CHECK VALVE
LOCK-UP CONTROL VALVE
H
G
SHIFT VALVE D
CHECK BALL
SERVO CONTROL VALVE

**Fig. 390: Disassembling Main Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

### VALVE SPRING SPECIFICATIONS

| Valve Springs | | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|---|
| | | Wire Diameter | O.D. | Free Length | No. of Coils |
| A | Cut valve B spring | 0.8 (0.031) | 9.9 (0.390) | 27.3 (1.075) | 8.0 |
| B | Shift valve A spring | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |
| C | Shift valve C | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |

| | | | | | |
|---|---|---|---|---|---|
| | spring | | | | |
| D | Relief valve spring | 1.0 (0.039) | 9.6 (0.378) | 34.1 (1.343) | 10.2 |
| E | Lock-up control valve spring | 0.6 (0.024) | 7.1 (0.280) | 31.2 (1.228) | 11.2 |
| F | Cooler check valve spring | 0.85 (0.033) | 6.6 (0.260) | 27.0 (1.063) | 11.3 |
| G | Shift valve D spring | 0.8 (0.031) | 5.6 (0.220) | 28.1 (1.106) | 15.9 |
| H | Servo control valve spring | 0.8 (0.031) | 9.9 (0.390) | 27.3 (1.075) | 8.0 |

### ATF PUMP INSPECTION

1. Install the ATF pump drive gear (A), the ATF pump driven gear (B), and the ATF pump driven gear shaft (C) in the main valve body (D). Lubricate all parts with ATF, and install the ATF pump driven gear with its grooved and chamfered side facing up.

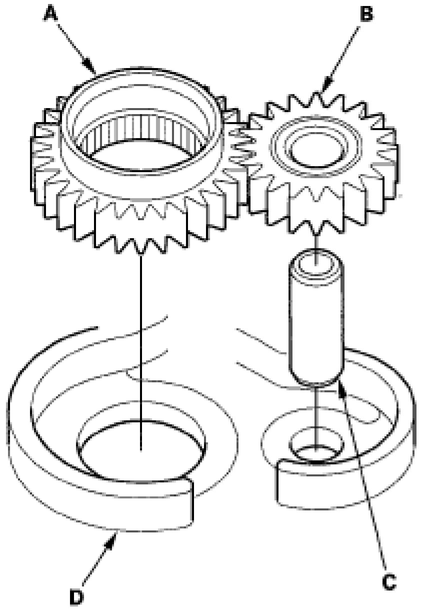

**Fig. 391: Identifying ATF Pump Drive Gear, ATF Pump Driven Gear, ATF Pump Driven Gear Shaft And Main Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the side clearance of the ATF pump drive gear (A) and the ATF pump driven gear (B).

   **ATF Pump Gears Side (Radial) Clearance**

   **Standard (New)**

   **ATF Pump Drive Gear:**

   **0.210-0.265 mm (0.0083-0.0104 in.)**

   **ATF Pump Driven Gear:**

   **0.070-0.125 mm (0.0028-0.0049 in.)**

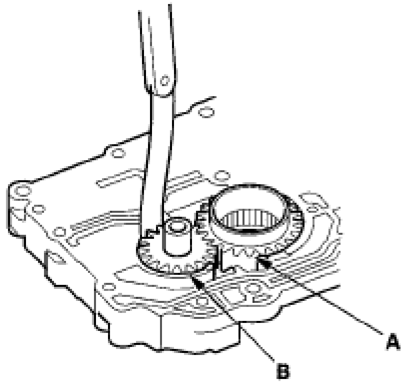

Fig. 392: Measuring Side Clearance Of ATF Pump Drive Gear And ATF Pump Driven Gear
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF pump driven gear shaft. Measure the thrust clearance between the ATF pump driven gear (A) and the valve body (B) with a straight edge (C) and a feeler gauge (D).

   **ATF Pump Drive/Driven Gear Thrust (Axial)**

   **Clearance:**

   **Standard (New): 0.03-0.06 mm (0.001-0.002 in.)**

   **Service Limit: 0.07 mm (0.003 in.)**

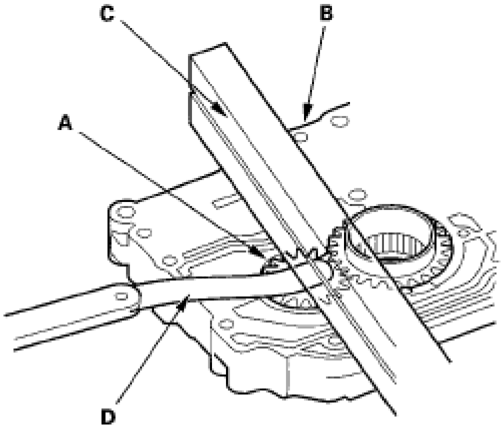

Fig. 393: Measuring Thrust Clearance Between ATF Pump Driven Gear And Valve Body

## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages except the air check valve filter.
2. Inspect the regulator valve body for scoring and damage.
3. Hold the regulator spring cap in place while removing the stop bolt. The regulator spring cap is spring loaded. Once the stop bolt is removed, release the spring cap slowly so it does not pop out.
4. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
5. Check the air check valve filter for clogging. If the filter is clogged, remove the air check valve, and clean the filter thoroughly by pouring clean ATF. Do not blow out the filter with compressed air. Replace the air check valve, if the filter or check valve (ball) is clogged or damaged.
6. Coat all parts with ATF during assembly.
7. Align the hole in the regulator spring cap with the stop bolt hole, then press the spring cap into the valve body, and tighten the stop bolt.

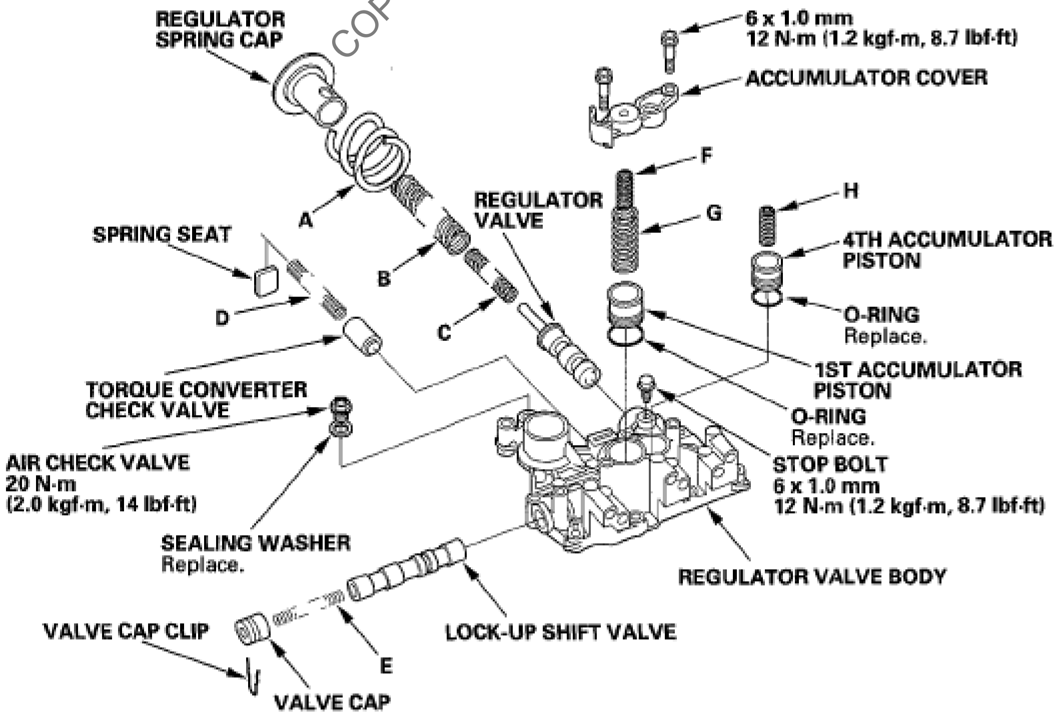
REGULATOR SPRING CAP
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
ACCUMULATOR COVER
F
H
REGULATOR VALVE
G
A
SPRING SEAT
4TH ACCUMULATOR PISTON
B
D
C
O-RING
Replace.
1ST ACCUMULATOR PISTON
TORQUE CONVERTER CHECK VALVE
O-RING
Replace.
AIR CHECK VALVE
20 N·m
(2.0 kgf·m, 14 lbf·ft)
STOP BOLT
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
SEALING WASHER
Replace.
REGULATOR VALVE BODY
VALVE CAP CLIP
LOCK-UP SHIFT VALVE
E
VALVE CAP

**Fig. 394: Disassembling Regulator Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

## VALVE SPRING SPECIFICATIONS

| Valve Springs | | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|---|
| | | Wire Diameter | O.D. | Free Length | No. of Coils |
| A | Stator reaction spring | 4.5 (0.177) | 35.4 (1.394) | 30.3 (1.193) | 1.92 |
| B | Regulator valve spring A | 1.9 (0.075) | 14.7 (0.579) | 80.6 (3.173) | 16.1 |
| C | Regulator valve spring B | 1.6 (0.063) | 9.2 (0.362) | 44.0 (1.732) | 12.5 |
| D | Torque converter check valve spring | 1.2 (0.047) | 8.6 (0.339) | 33.8 (1.331) | 12.2 |
| E | Lock-up shift valve spring | 1.0 (0.039) | 6.6 (0.260) | 35.5 (1.398) | 18.2 |
| F | 1st accumulator spring B | 2.4 (0.094) | 12.2 (0.480) | 35.0 (1.378) | 7.7 |
| G | 1st accumulator spring A | 2.4 (0.094) | 18.6 (0.732) | 50.1 (1.972) | 6.7 |
| H | 4th accumulator spring | 2.5 (0.098) | 14.6 (0.575) | 29.9 (1.177) | 4.9 |

**SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Inspect the servo body for scoring and damage.
3. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
4. Coat all parts with ATF during assembly.

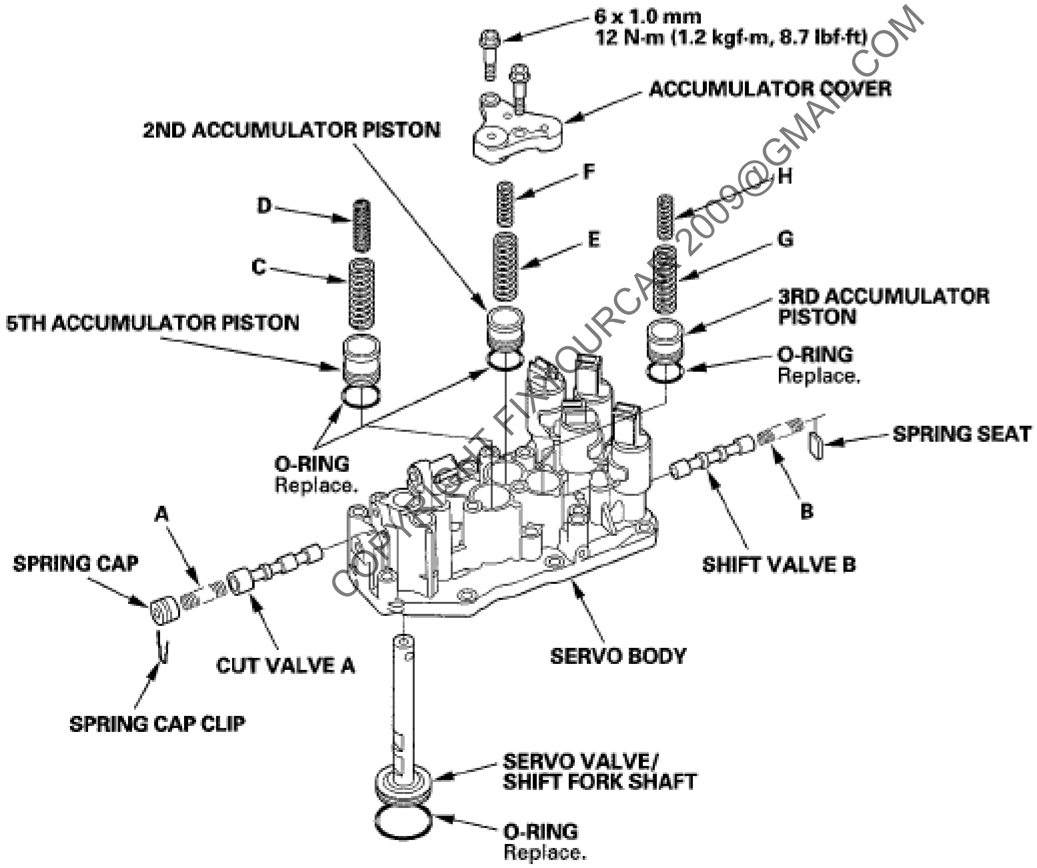
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
ACCUMULATOR COVER
2ND ACCUMULATOR PISTON
F
H
D
E
G
C
3RD ACCUMULATOR PISTON
5TH ACCUMULATOR PISTON
O-RING
Replace.
SPRING SEAT
O-RING
Replace.
A
B
SPRING CAP
SHIFT VALVE B
CUT VALVE A
SERVO BODY
SPRING CAP CLIP
SERVO VALVE/
SHIFT FORK SHAFT
O-RING
Replace.

**Fig. 395: Disassembling Servo Body & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

**VALVE SPRING SPECIFICATIONS**

| | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|
| | Wire | | Free | No. of |

| Valve Springs | | Diameter | O.D. | Length | Coils |
|---|---|---|---|---|---|
| A | Cut valve A spring | 0.9 (0.035) | 9.9 (0.390) | 22.3 (0.878) | 6.9 |
| B | Shift valve B spring | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |
| C | 5th accumulator spring A | 2.5 (0.098) | 16.6 (0.654) | 46.9 (1.846) | 7.8 |
| D | 5th accumulator spring B | 1.9 (0.075) | 10.0 (0.394) | 38.5 (1.516) | 10.6 |
| E | 2nd accumulator spring A | 1.8 (0.071) | 14.6 (0.575) | 43.8 (1.724) | 7.9 |
| F | 2nd accumulator spring B | 1.85 (0.073) | 9.4 (0.370) | 32.5 (1.280) | 8.7 |
| G | 3rd accumulator spring A | 1.8 (0.071) | 14.6 (0.575) | 43.8 (1.724) | 7.9 |
| H | 3rd accumulator spring B | 1.85 (0.073) | 9.4 (0.370) | 32.5 (1.280) | 8.7 |

### SHIFT SOLENOID VALVE REMOVAL AND INSTALLATION

**NOTE: Do not hold the solenoid valve connector to remove and install the solenoid valves. Be sure to hold the solenoid valve body.**

1. Remove the mounting bolts, then remove the solenoid valves by holding the solenoid valve body.
2. Install new O-rings (E) on each solenoid valve.

**NOTE: A new shift solenoid valve comes with new O-rings. If**

**you install a new solenoid valve, use the O-rings provided on it.**

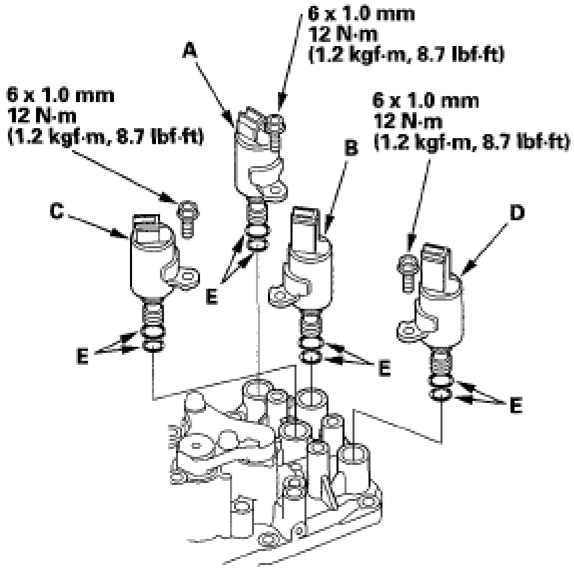

**Fig. 396: Identifying Shift Solenoid Valve, O-Ring & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install shift solenoid valve D (black connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the servo body.
4. Install shift solenoid valve C (brown connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the servo body.
5. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; be sure to install the mounting bracket Contacts to the servo body.
6. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the bracket of shift solenoid valve B.

**NOTE:** **Do not install shift solenoid valve A before installing shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

# TORQUE CONVERTER HOUSING

## MAINSHAFT BEARING AND OIL SEAL REPLACEMENT

### Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500
- Attachment, 72 x 75 mm 07746-0010600

1. Remove the mainshaft bearing and oil seal using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

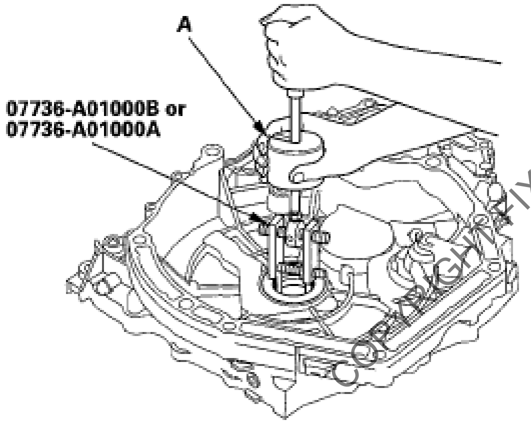

**Fig. 397: Removing Mainshaft Bearing And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new mainshaft bearing until it bottoms in the torque converter housing using the driver and the 62 x 68 mm attachment.

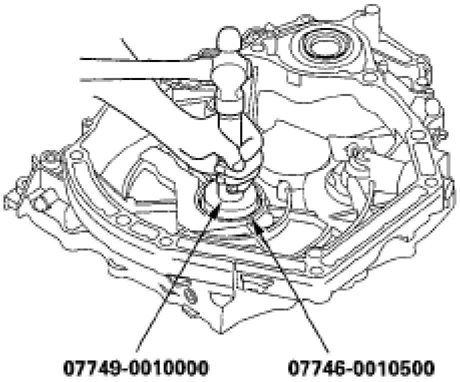

**Fig. 398: Tapping Mainshaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new oil seal flush with the housing using the driver and the 72 x 75 mm attachment.

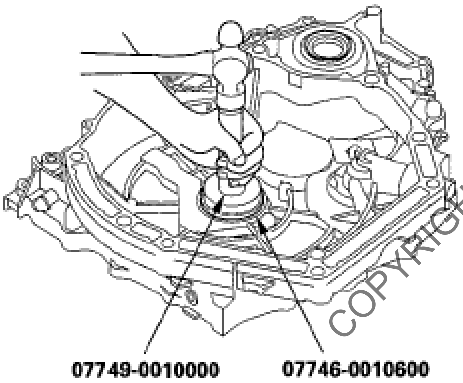

**Fig. 399: Tapping Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT BEARING REPLACEMENT**

## Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the countershaft bearing using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

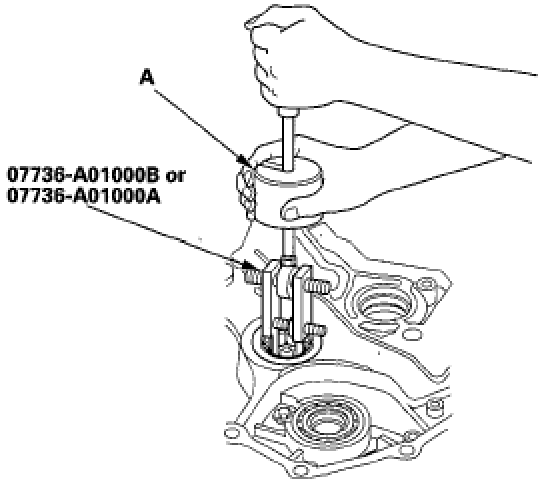

Fig. 400: Removing Countershaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ATF guide plate (A).

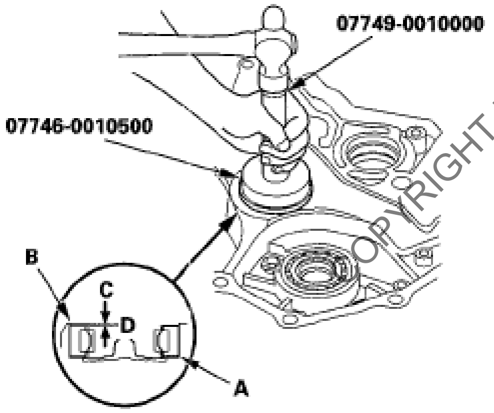

Fig. 401: Tapping ATF Guide Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install a new countershaft bearing (B) in the housing using the driver and the 62 x 68 mm attachment; install the bearing outer race surface in height (C) of 0-0.03 mm (0-0.001 in.) above the housing surface (D). Do not install the bearing exceeding 0.03 mm (0.001 in.) high from housing surface.

**SECONDARY SHAFT BEARING REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the bolt, then remove the lock washer (A) and the bearing set plate (B).

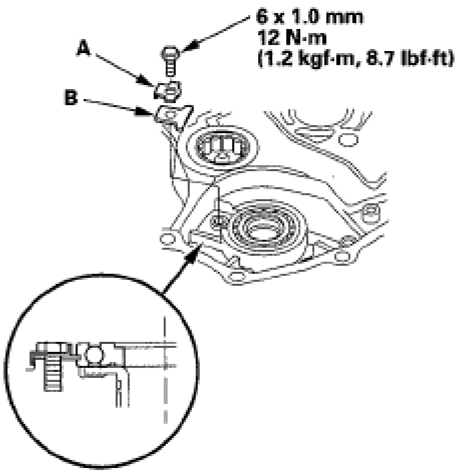

**Fig. 402: Identifying Lock Washer, Bearing Set Plate w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the secondary shaft bearing (A) by heating the housing to about 212 °F (100 °C) with a heat gun (B). Do not heat the housing more than 212 °F (100 °C).

**NOTE: Let the housing cool to normal temperature before installing the bearing.**

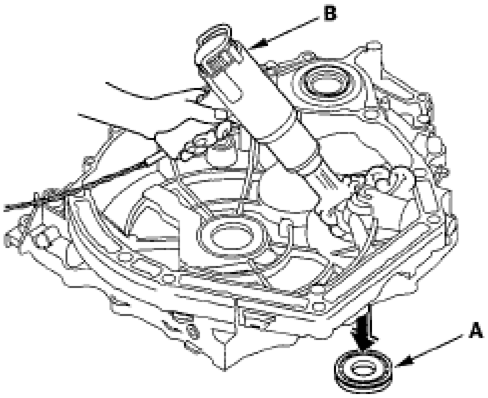

**Fig. 403: Heating Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install new O-rings (A) on the ATF guide collar (B), then install the ATF guide collar in the housing.

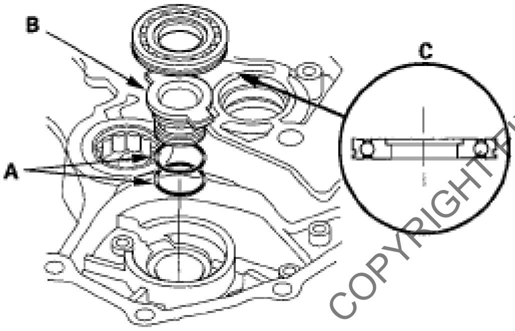

**Fig. 404: Identifying O-Rings And ATF Guide Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new secondary shaft bearing (C) in the direction shown.
5. Install the secondary shaft bearing using the driver and the 62 x 68 mm attachment securely in the housing.

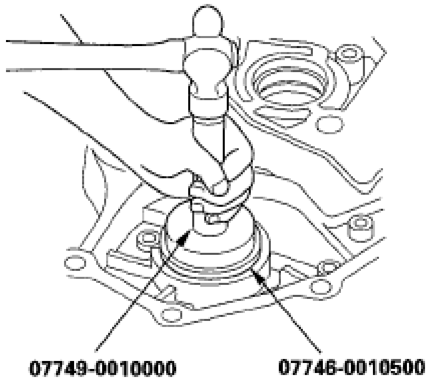

**Fig. 405: Tapping Secondary Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Check that the bearing groove aligns with the housing surface, then install the bearing set plate aligned with the bearing groove.
7. Install a new lock washer and the bolt, then bend the lock tab of the lock washer against the bolt head.

### LUBRICATION CHECK VALVE REPLACEMENT

1. Remove the sealing bolt (A) and the sealing washer (B).

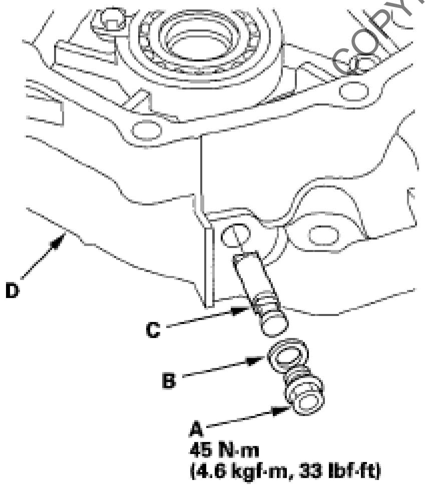

**Fig. 406: Identifying Lubrication Check Valve, Sealing Bolt, Sealing Washer & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the lubrication check valve (C) from the torque converter housing (D).

3. Install a new lubrication check valve, a new sealing washer, and the sealing bolt.

**SELECTOR CONTROL SHAFT OIL SEAL REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 07947-ZV00100

1. Remove the oil seal from the torque converter housing.

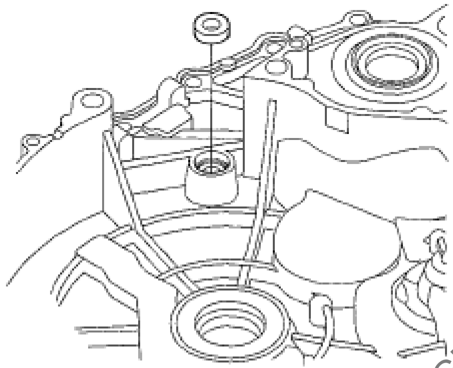

**Fig. 407: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. install a new oil seal (A) in the torque converter housing to a depth (B) of 0.5-1.5 mm (0.02-0.06 in.) below the housing surface using the driver and the oil seal driver attachment.

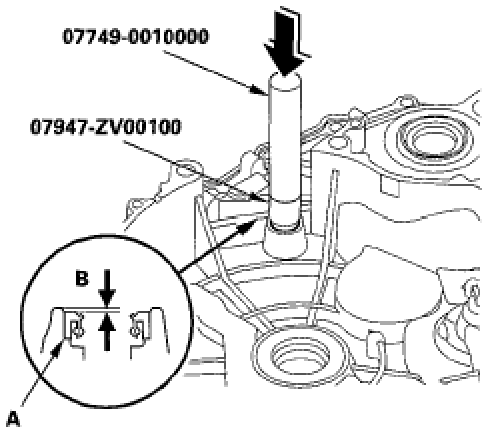

**Fig. 408: Pressing Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SHAFTS AND CLUTCHES

### MAINSHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

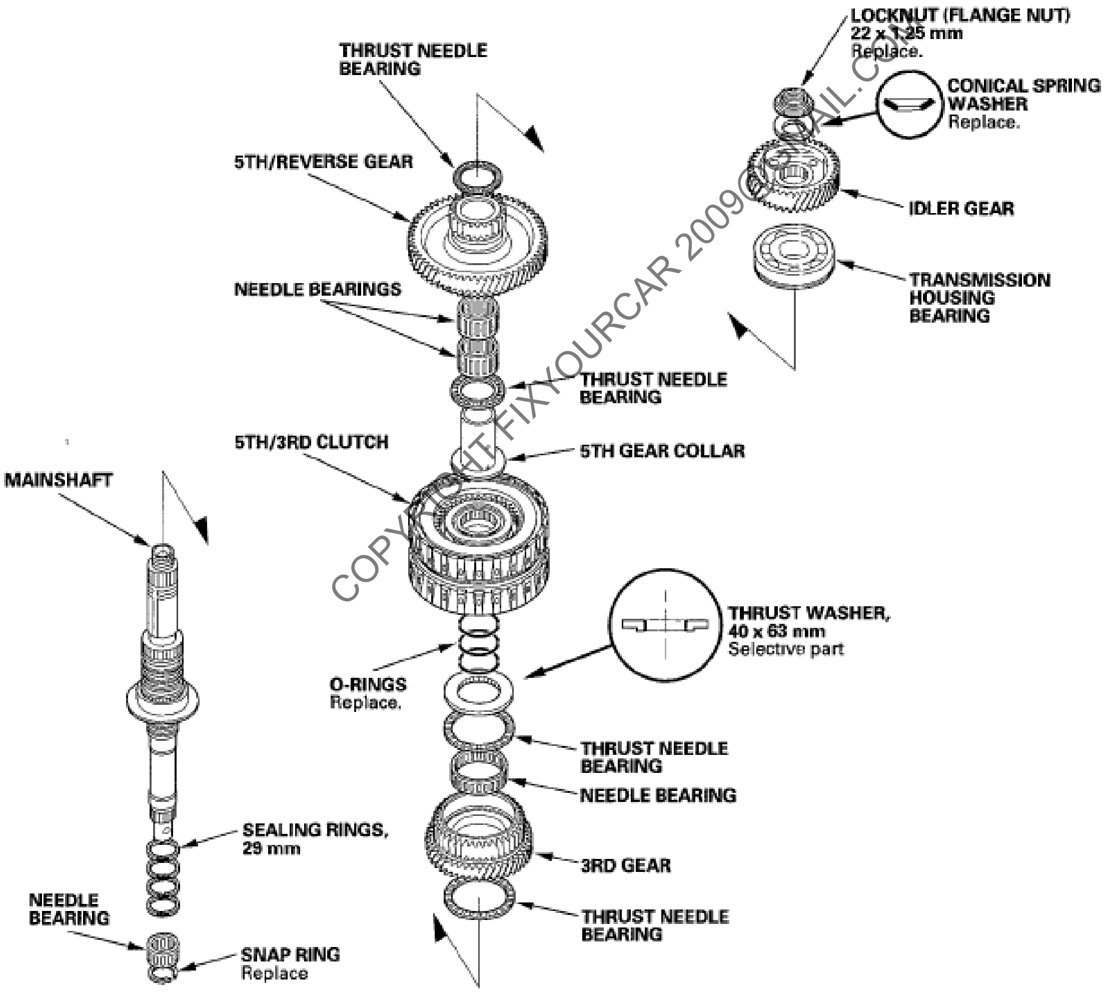
LOCKNUT (FLANGE NUT)
22 x 1.25 mm
Replace.
THRUST NEEDLE BEARING
CONICAL SPRING WASHER
Replace.
5TH/REVERSE GEAR
IDLER GEAR
TRANSMISSION HOUSING BEARING
NEEDLE BEARINGS
THRUST NEEDLE BEARING
5TH/3RD CLUTCH
5TH GEAR COLLAR
MAINSHAFT
THRUST WASHER, 40 x 63 mm
Selective part
O-RINGS
Replace.
THRUST NEEDLE BEARING
NEEDLE BEARING
SEALING RINGS, 29 mm
3RD GEAR
NEEDLE BEARING
THRUST NEEDLE BEARING
SNAP RING
Replace

**Fig. 409: Exploded View Of Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.

4. Before installing the O-rings, wrap the shaft splines with tape to prevent O-ring damage.
5. Lubricate all parts with ATF during assembly.
6. Install the conical spring washer, the 40 x 63 mm thrust washer in the direction shown.
7. Replace the locknut and the conical spring washer with new ones when assembling the transmission.
8. Check the axial clearance of 3rd gear (see **MAINSHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION** ).

### MAINSHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION

1. Remove the mainshaft transmission housing bearing (see **BEARING REMOVAL** ).
2. Install the thrust needle bearing (A), 3rd gear (B), the needle bearing (C), the thrust needle bearing (D), the 40 x 63 mm thrust washer (E), the 3rd/5th clutch (F), the 5th gear collar (G), and the transmission housing bearing (H) on the mainshaft (I). Do not install the O-rings during inspection.

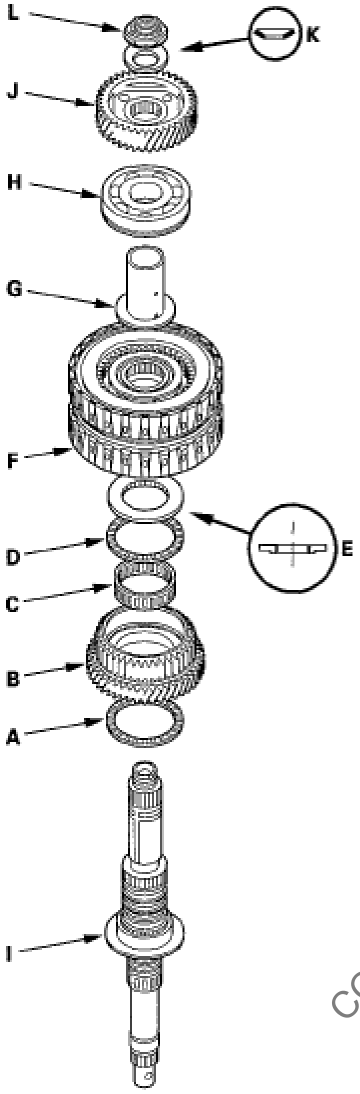

**Fig. 410: Identifying Thrust Needle Bearing, 3rd Gear, Needle Bearing And Thrust Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the idler gear (J) on the mainshaft by a press, then install the conical spring washer (K) and the locknut (L).
4. Tighten the locknut to 29 N.m (3.0 kgf.m, 22 lbf.ft).
5. Set the dial indicator (A) on 3rd gear (B).

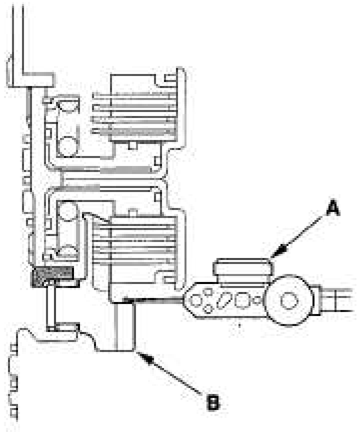

**Fig. 411: Setting Dial Indicator On 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Lift 3rd gear (A) up while holding the mainshaft, and use the dial indicator (B) to read the 3rd gear axial clearance.

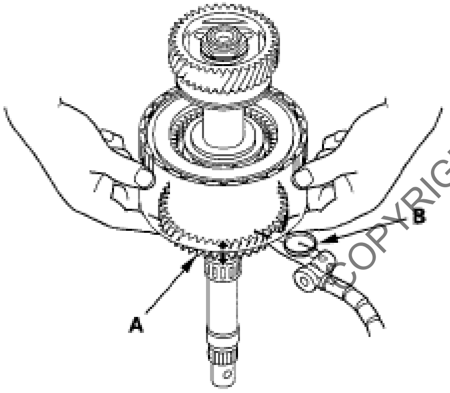

**Fig. 412: Measuring 3rd Gear Axial Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Measure the 3rd gear axial clearance in at least three places while moving 3rd gear. Use the average as the actual clearance.

   **Standard: 0.04-0.10 mm (0.002-0.004 in.)**

8. If the clearance is out of standard, remove the 40 x 63 mm thrust washer and measure its thickness (A).

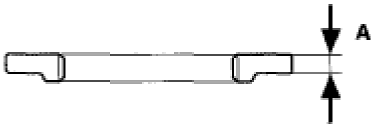

**Fig. 413: Identifying Thrust Washer Thickness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 40 x 63 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90414-RPC-002 | 3.750 mm (0.1476 in.) |
| 2 | 90415-RPC-002 | 3.775 mm (0.1486 in.) |
| 3 | 90416-RPC-002 | 3.800 mm (0.1496 in.) |
| 4 | 90417-RPC-002 | 3.825 mm (0.1506 in.) |
| 5 | 90418-RPC-002 | 3.850 mm (0.1516 in.) |
| 6 | 90419-RPC-002 | 3.875 mm (0.1526 in.) |
| 7 | 90420-RPC-002 | 3.900 mm (0.1535 in.) |
| 8 | 90421-RPC-002 | 3.925 mm (0.1545 in.) |
| 9 | 90422-RPC-002 | 3.950 mm (0.1555 in.) |
| 10 | 90423-RPC-002 | 3.975 mm (0.1565 in.) |
| 11 | 90424-RPC-002 | 4.000 mm (0.1575 in.) |

10. After replacing the thrust washer, make sure the clearance is within standard.
11. Disassemble the installed parts from the mainshaft.
12. Reinstall the bearing in the transmission housing (see **BEARING INSTALLATION** ).

### COUNTERSHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

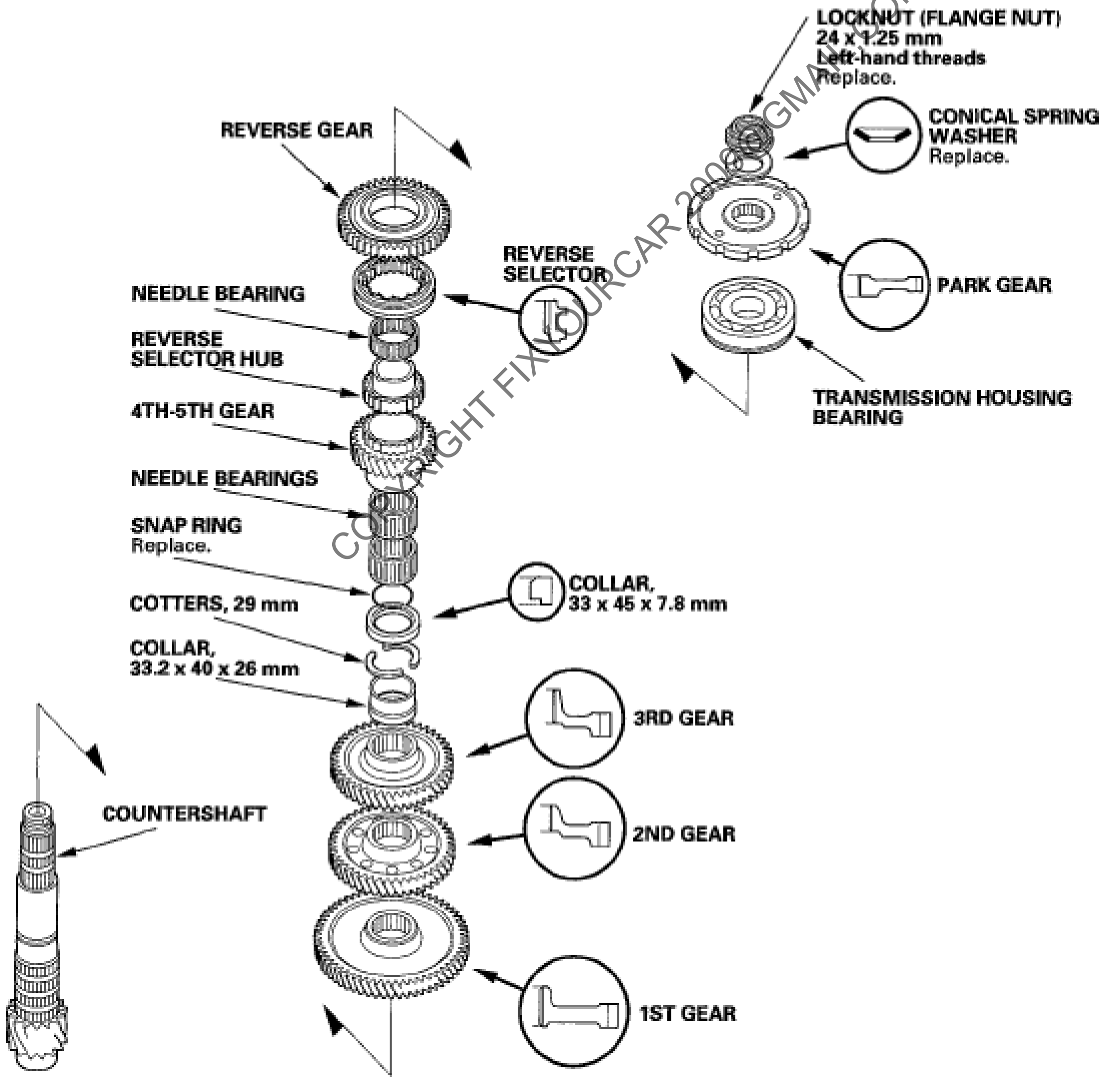
LOCKNUT (FLANGE NUT)
24 x 1.25 mm
Left-hand threads
Replace.
CONICAL SPRING WASHER
Replace.
REVERSE GEAR
REVERSE SELECTOR
PARK GEAR
NEEDLE BEARING
REVERSE SELECTOR HUB
TRANSMISSION HOUSING BEARING
4TH-5TH GEAR
NEEDLE BEARINGS
SNAP RING
Replace.
COTTERS, 29 mm
COLLAR,
33 x 45 x 7.8 mm
COLLAR,
33.2 x 40 x 26 mm
3RD GEAR
2ND GEAR
COUNTERSHAFT
1ST GEAR

**Fig. 414: Exploded View Of Countershaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.
4. Lubricate all parts with ATF during assembly.
5. Install the conical spring washer, the park gear, the reverse selector, the 33 x 45 x 7.8 mm collar, and gears in the direction shown.
6. Replace the locknut and the conical spring washer with new ones when assembling the transmission. The countershaft locknut has left-hand threads.
7. Some reverse selector hubs are press-fitted to the countershaft; remove the hubs with a press (see **COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL** ), and install them with the special tool and a press (see **COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL** ).

### COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL

1. Remove the reverse selector hub from the countershaft by hand. If the reverse selector hub (A) cannot be removed by hand, it is press-fitted to the countershaft (B), and remove it from the countershaft with a press. Place 4th-5th gear (C) on press bases (D), and place a shaft protector (E) between the countershaft and press to prevent damaging the countershaft.

**NOTE: Some reverse selector hubs are not press-fitted, and can be removed without using a press.**

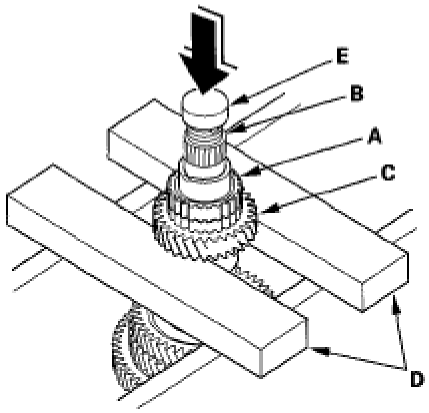

**Fig. 415: Removing Countershaft Reverse Selector Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Support the bottom of the countershaft with one hand, then press the countershaft out of the press-fitted reverse selector hub, and remove the countershaft while holding the underside the countershaft. The countershaft will drop down after pressing it out of the press-fitted reverse selector hub.
3. Remove the remaining parts from the countershaft, if necessary.

### COUNTERSHAFT REVERSE SELECTOR HUB INSTALLATION

## Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Install 1st gear, 2nd gear, 3rd gear, the 33.2 x 40 x 26 mm collar, the 29 mm cotters, and the 33 x 45 x 7.8 mm collar on the countershaft, and secure them with the snap ring.
2. Install the needle bearings and 4th-5th gear.
3. Slide the reverse selector hub (A) over the countershaft (B), then press it in place using the 40 mm I.D. driver and a press.

**NOTE: Some reverse selector hubs are not press-fitted, and can be installed without using the special tool and a press.**

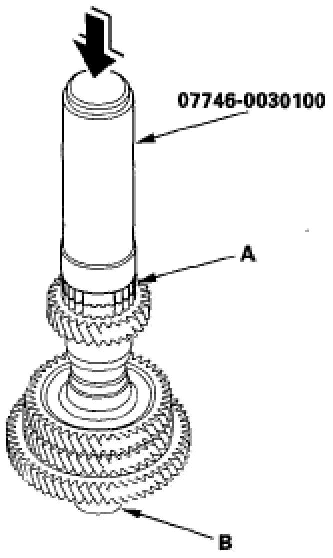

**Fig. 416: Installing Countershaft Reverse Selector Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SECONDARY SHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

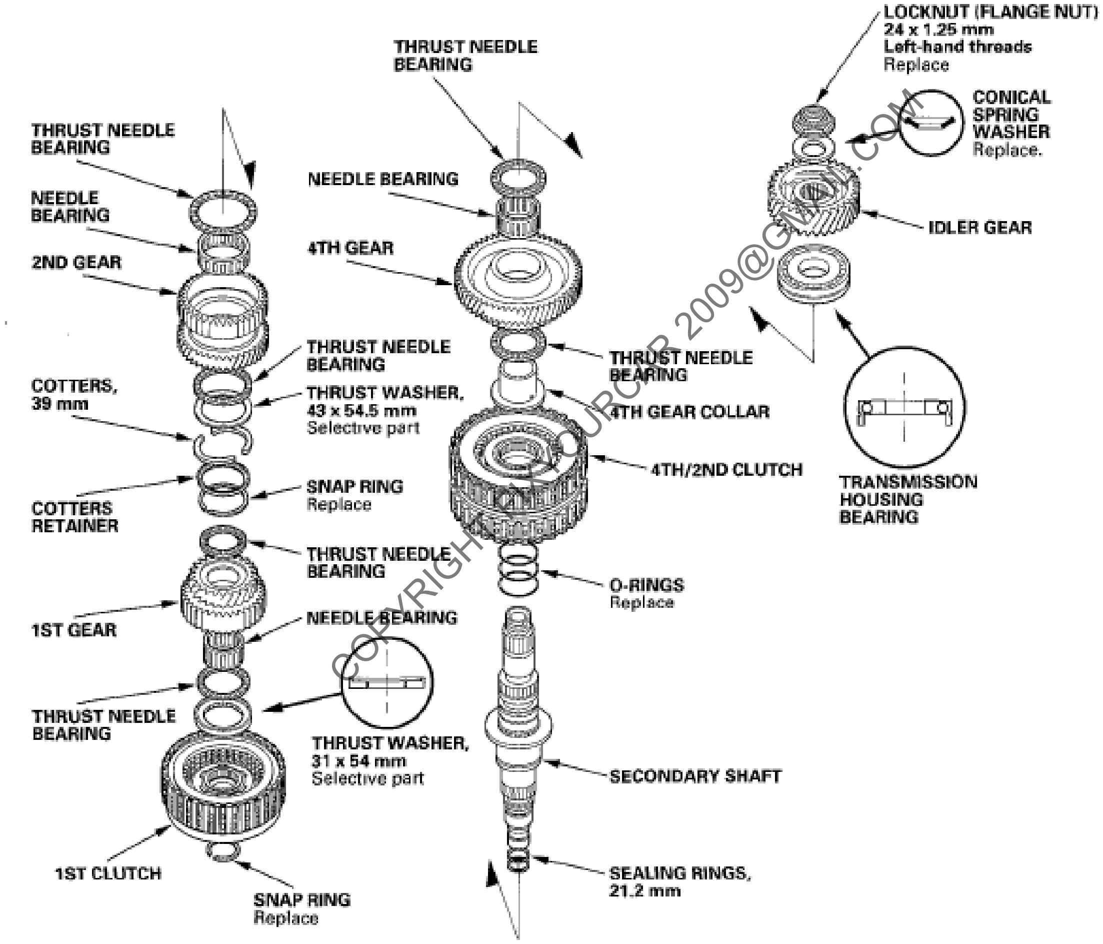
LOCKNUT (FLANGE NUT)
24 x 1.25 mm
Left-hand threads
Replace
THRUST NEEDLE BEARING
CONICAL SPRING WASHER
Replace.
THRUST NEEDLE BEARING
NEEDLE BEARING
IDLER GEAR
NEEDLE BEARING
4TH GEAR
2ND GEAR
THRUST NEEDLE BEARING
THRUST NEEDLE BEARING
COTTERS, 39 mm
THRUST WASHER, 43 x 54.5 mm
Selective part
4TH GEAR COLLAR
4TH/2ND CLUTCH
TRANSMISSION HOUSING BEARING
SNAP RING
Replace
COTTERS RETAINER
THRUST NEEDLE BEARING
O-RINGS
Replace
1ST GEAR
NEEDLE BEARING
THRUST NEEDLE BEARING
THRUST WASHER, 31 x 54 mm
Selective part
SECONDARY SHAFT
1ST CLUTCH
SEALING RINGS, 21.2 mm
SNAP RING
Replace
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**Fig. 417: Exploded View Of Secondary Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.
4. Before installing the O-rings, wrap the shaft splines with tape to prevent O-ring damage.

5. Lubricate all parts with ATF during assembly.
6. Install the conical spring washer, the idler gear, and the 31 x 54 mm thrust washer in the direction shown.
7. Replace the locknut and the conical spring washer with new ones when assembling the transmission. The locknut has left-hand threads.
8. Check the axial clearance of 1st gear (see **SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION** ) and 2nd gear (see **SECONDARY SHAFT 2ND GEAR AXIAL CLEARANCE INSPECTION** ).
9. Inspect the condition of the sealing rings. If the sealing rings are worn, distorted, or damaged, replace them (see **SECONDARY SHAFT SEALING RING REPLACEMENT** ).

### SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION

1. Install the thrust needle bearing (A), 1st gear (B), the needle bearing (C), the thrust needle bearing (D), the 31 x 54 mm thrust washer (E), and the 1st clutch (F) on the secondary shaft (G), then secure them with the snap ring (H).

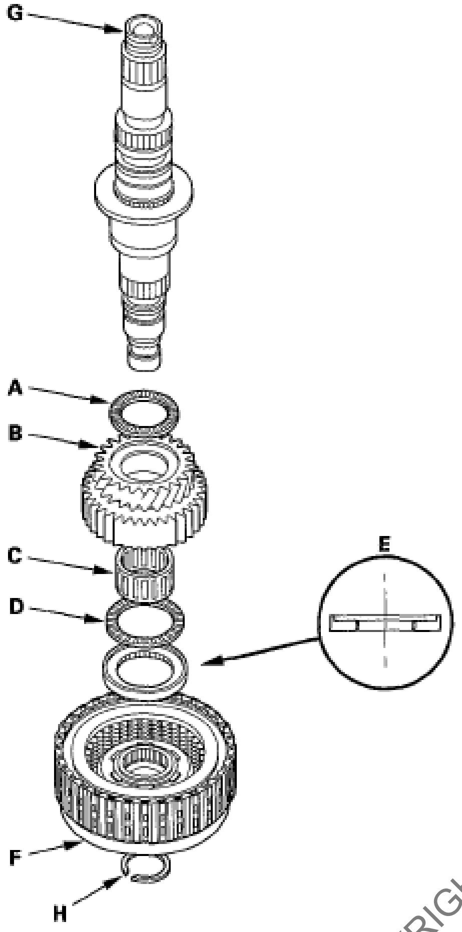
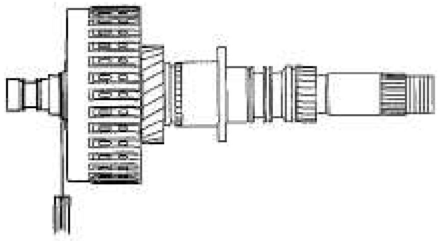


**Fig. 418: Identifying Thrust Needle Bearing, 1st Gear, Needle Bearing And Thrust Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the clearance between the snap ring (A) and the 1st clutch drum (B) using a feeler gauge (C), in at least three places. Use the average as the actual clearance.

   **Standard: 0.04-0.12 mm (0.002-0.005 in.)**



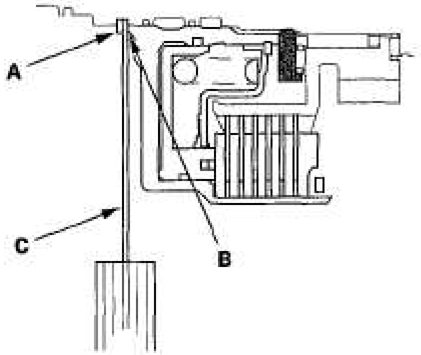


**Fig. 419: Measuring Clearance Between Snap Ring And 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the clearance is out of standard, remove the 31 x 54 mm thrust washer and measure its thickness (A).

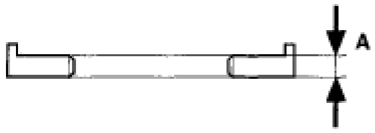


**Fig. 420: Identifying Thrust Washer Thickness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 31 x 54 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90521-RPC- | 3.925 mm |

| | | |
|---|---|---|
| | 001 | (0.1545 in.) |
| 2 | 90522-RPC-001 | 3.950 mm (0.1555 in.) |
| 3 | 90523-RPC-001 | 3.975 mm (0.1565 in.) |
| 4 | 90524-RPC-001 | 4.000 mm (0.1575 in.) |
| 5 | 90525-RPC-001 | 4.025 mm (0.1585 in.) |
| 6 | 90526-RPC-001 | 4.050 mm (0.1594 in.) |
| 7 | 90527-RPC-001 | 4.075 mm (0.1604 in.) |
| 8 | 90528-RPC-001 | 4.100 mm (0.1614 in.) |
| 9 | 90529-RPC-001 | 4.125 mm (0.1624 in.) |
| 10 | 90530-RPC-000 | 4.150 mm (0.1634 in.) |
| 11 | 90531-RPC-000 | 4.175 mm (0.1644 in.) |
| 12 | 90532-RPC-000 | 4.200 mm (0.1654 in.) |
| 13 | 90533-RPC-000 | 4.225 mm (0.1663 in.) |
| 14 | 90534-RPC-000 | 4.250 mm (0.1673 in.) |
| 15 | 90535-RPC-000 | 4.275 mm (0.1683 in.) |
| 16 | 90536-RPC-000 | 4.300 mm (0.1693 in.) |
| 17 | 90537-RPC-000 | 4.325 mm (0.1703 in.) |

5. After replacing the thrust washer, make sure the clearance is within standard.
6. Disassemble the installed parts from the secondary shaft.

### SECONDARY SHAFT 2ND GEAR AXIAL CLEARANCE INSPECTION

1. Install the thrust needle bearing (A), the needle bearing (B), 2nd gear (C), the thrust needle bearing (D), the 43 x 54.5 mm thrust washer (E), the 39 mm cotters (F), and the cotter retainer (G) on the secondary shaft (H), then secure them with the snap ring (I).

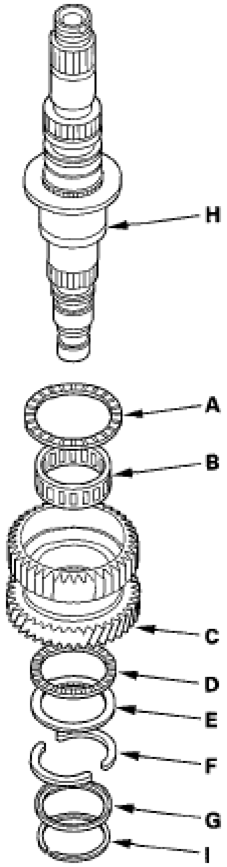


**Fig. 421: Identifying Thrust Needle Bearing, Needle Bearing, 2nd Gear, Thrust Needle Bearing And Thrust Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Set the dial indicator (A) on 2nd gear (B).

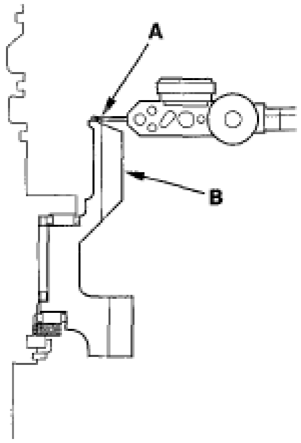


**Fig. 422: Setting Dial Indicator On 2nd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Lift 2nd gear (A) up while holding the secondary shaft (B), and use the dial indicator (C) to read the 2nd gear axial clearance.

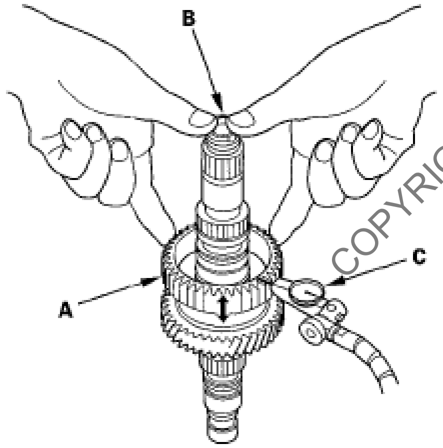


**Fig. 423: Measuring 2nd Gear Axial Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the 2nd gear axial clearance in at least three places while turning 2nd gear. Use the average as the actual clearance.

   **Standard: 0.04-0.12 mm (0.002-0.005 in.)**

5. If the clearance is out of standard, remove the 43 x 54.5 mm thrust washer and measure its thickness.

6. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 43 x 54.5 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90502-RPC-000 | 2.900 mm (0.1142 in.) |
| 2 | 90503-RPC-000 | 2.925 mm (0.1152 in.) |
| 3 | 90504-RPC-000 | 2.950 mm (0.1161 in.) |
| 4 | 90505-RPC-000 | 2.975 mm (0.1171 in.) |
| 5 | 90506-RPC-000 | 3.000 mm (0.1181 in.) |
| 6 | 90507-RPC-000 | 3.025 mm (0.1191 in.) |
| 7 | 90508-RPC-000 | 3.050 mm (0.1201 in.) |
| 8 | 90509-RPC-000 | 3.075 mm (0.1211 in.) |
| 9 | 90510-RPC-000 | 3.100 mm (0.1220 in.) |
| 10 | 90511-RPC-000 | 3.125 mm (0.1230 in.) |
| 11 | 90512-RPC-000 | 3.150 mm (0.1240 in.) |
| 12 | 90513-RPC-000 | 3.175 mm (0.1250 in.) |
| 13 | 90514-RPC-000 | 3.200 mm (0.1260 in.) |

7. After replacing the thrust washer, make sure the clearance is within standard.

8. Disassemble the installed parts from the secondary shaft.

### SECONDARY SHAFT SEALING RING REPLACEMENT

The sealing rings are synthetic resin with chamfered ends. Check the condition of the sealing rings, and replace them only if they are worn, distorted, or damaged.

1. For a better fit, squeeze sealing rings together slightly before installing them.

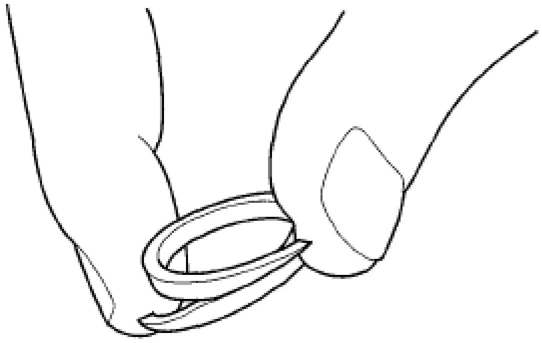


**Fig. 424: Identifying Sealing Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Apply ATF to new sealing rings, then install them on the mainshaft.

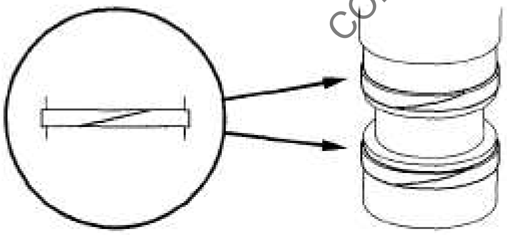


**Fig. 425: Identifying Sealing Rings On Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. After installing the sealing rings, check the following:
   - The rings are fully seated in the groove.
   - The rings are not twisted.
   - The chamfered ends of the rings are properly joined.

### CLUTCH DISASSEMBLY

## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

1. Remove the snap ring using a screwdriver.

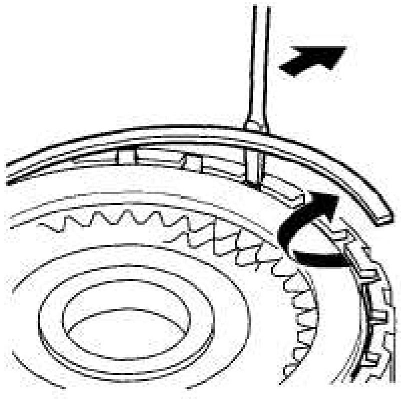


**Fig. 426: Removing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the clutch end-plate (A), the clutch discs (B) (6), the clutch wave-plates (C) (6), and the waved spring (D) from the 1st clutch drum (E)

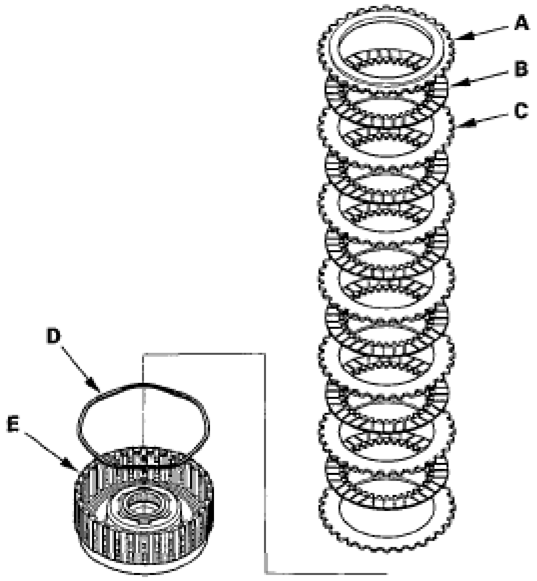


Fig. 427: Identifying Clutch End-Plate, Clutch Discs, Clutch Wave-Plates, Waved Spring And 1st Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch flat-plates (C) (4), and the waved spring (D) from the 2nd clutch drum (E).

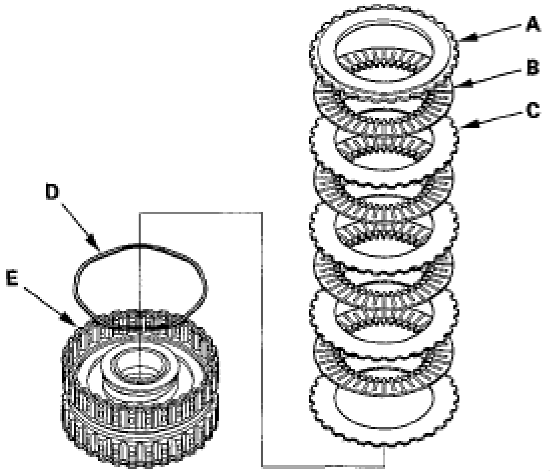


Fig. 428: Disassembling 2nd Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch flat-plates (C) (4), and the waved spring (D) from the 4th clutch drum (E).

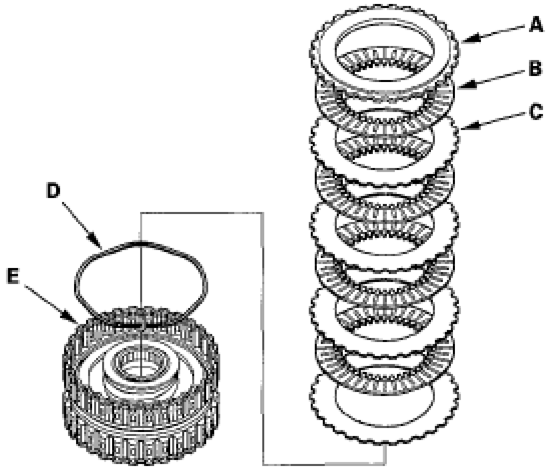


Fig. 429: Disassembling 4th Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch wave-plates (C) (4), and the waved spring (D) from the 3rd clutch drum (E).

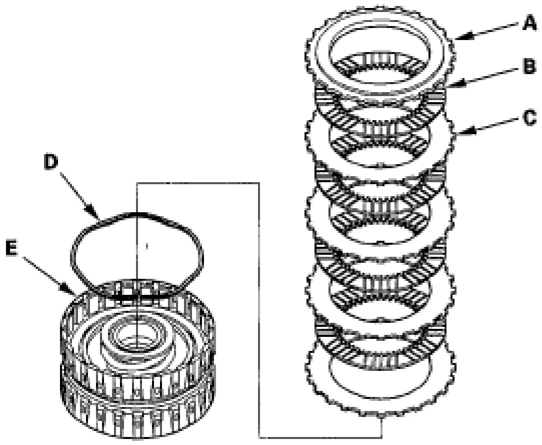


**Fig. 430: Disassembling 3rd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch wave-plates (C) (4), and the waved spring (D) from the 5th clutch drum (E).

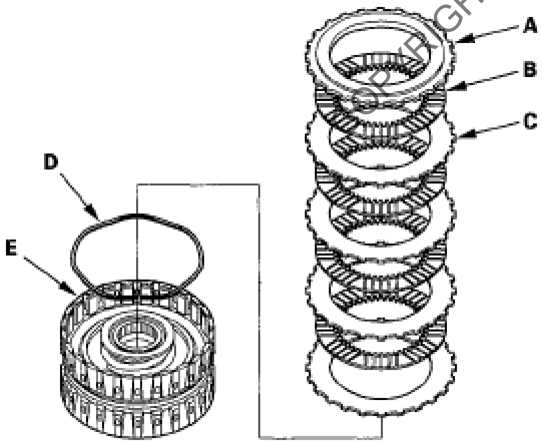


**Fig. 431: Disassembling 5th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

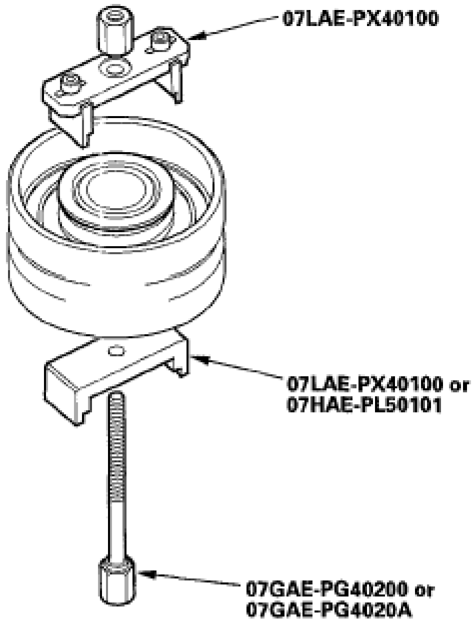

07LAE-PX40100
07LAE-PX40100 or
07HAE-PL50101
07GAE-PG40200 or
07GAE-PG4020A

**Fig. 432: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Set the clutch spring compressor attachment (A) on the spring retainer (B) of the 1st clutch in such a way that it works on the clutch return spring (C).

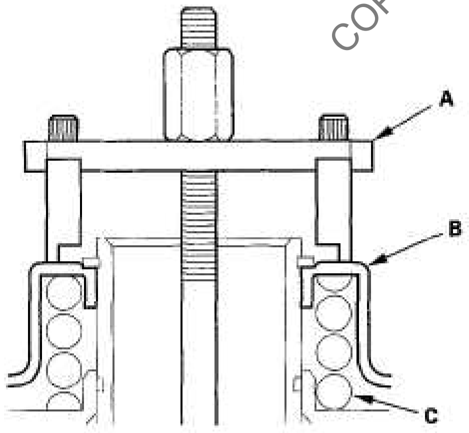


**Fig. 433: Setting Clutch Spring Compressor Attachment On Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the return spring retainer (B).

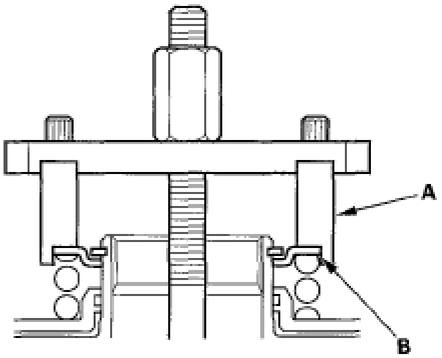


**Fig. 434: Identifying Clutch Spring Compressor Attachment And Return Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Check the placement of the clutch spring compressor attachment. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

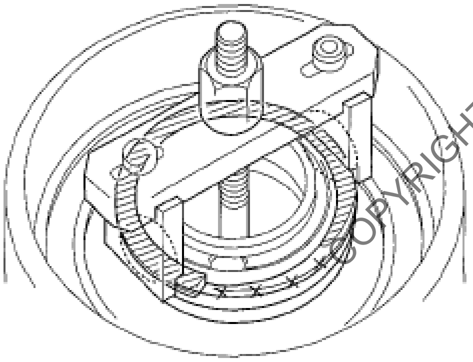


**Fig. 435: Identifying Clutch Spring Compressor Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Compress the return spring until the snap ring can be removed.

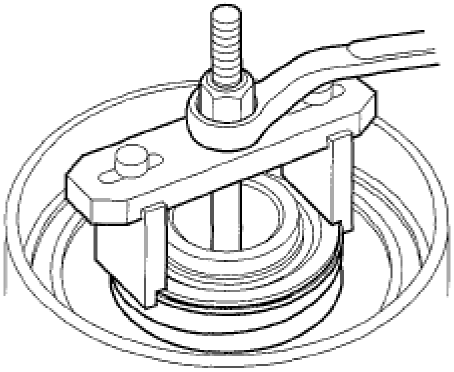


**Fig. 436: Compressing Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the snap ring using snap ring pliers.

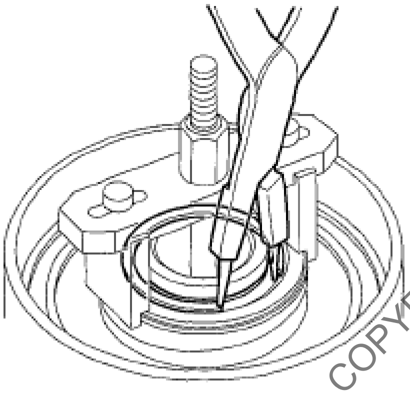


**Fig. 437: Removing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the clutch spring compressor attachment and the clutch spring compressor bolt assembly.
14. Remove the snap ring (A), the spring retainer (B), and the return spring (C).

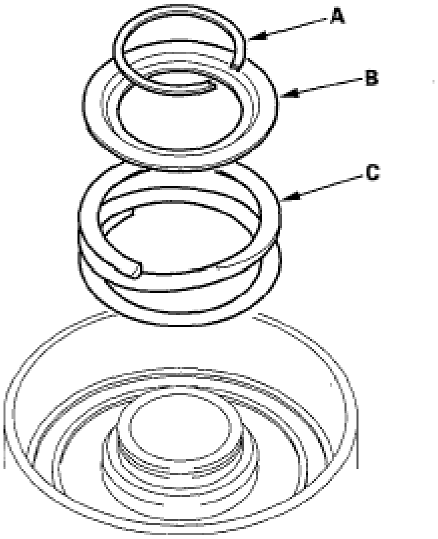


**Fig. 438: Identifying Snap Ring, Spring Retainer And Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Wrap a shop rag around the clutch drum, and apply air pressure to the fluid passage to remove the piston. Place a finger tip on the other passage while applying air pressure.

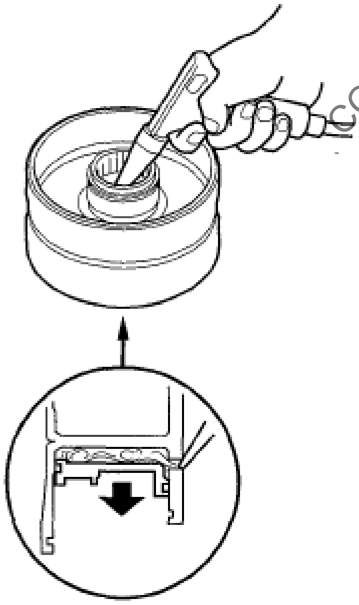


**Fig. 439: Applying Air Pressure To Fluid Passage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the clutch piston (A), and remove the outer O-ring (B) and the inner

O-ring (C) from the piston.

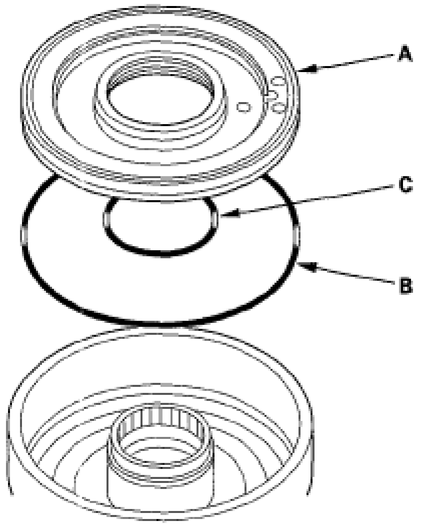


**Fig. 440: Identifying Clutch Piston, Outer O-Ring And Inner O-Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### CLUTCH INSPECTION

1. Inspect the 4th and 5th clutch pistons and the clutch piston check valves (A).

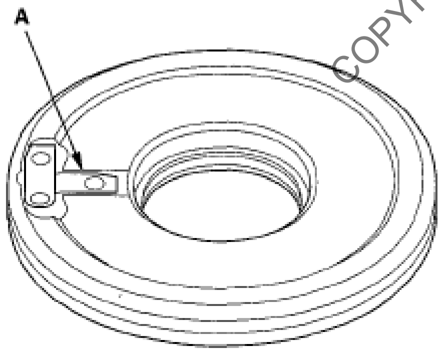


**Fig. 441: Identifying Clutch Piston Check Valves**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the clutch piston check valve is loose or damaged, replace the clutch piston.
3. Check the spring retainer for wear and damage.
4. Check the oil seal (A) on the spring retainer of the 1st, 2nd, and 3rd clutches for wear, damage, and peeling.

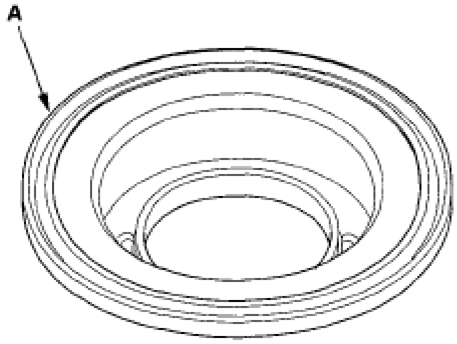


**Fig. 442: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If the oil seal is worn, damaged, or peeling, replace the spring retainer.
6. Inspect the clutch discs, the clutch plates, and the clutch end-plate for wear, damage, and discoloration.

   **Clutch Discs Standard Thickness:**

   **1st Clutch: 1.94 mm (0.076 in.)**

   **2nd Clutch: 1.96 mm (0.077 in.)**

   **3rd Clutch: 1.94 mm (0.076 in.)**

   **4th Clutch: 1.96 mm (0.077 in.)**

   **5th Clutch: 1.94 mm (0.076 in.)**

   **Clutch Plates Standard Thickness:**

   **1st Clutch (wave-plates): 1.6 mm (0.063 in.)**

   **2nd Clutch (flat-plates): 2.0 mm (0.079 in.)**

   **3rd Clutch (wave-plates): 1.6 mm (0.063 in.)**

   **4th Clutch (flat-plates): 1.6 mm (0.063 in.)**

   **5th Clutch (wave-plates): 1.6 mm (0.063 in.)**

7. If the clutch discs are worn or damaged, replace them as a set. If the clutch discs are replaced, inspect the clearance between the clutch end-plate and the top disc.
8. If any plate is worn, damaged, or discolored, replace the damaged plate with a new plate, and inspect the other wave-plates for a phase difference. If the clutch plate is replaced, inspect the clearance between the clutch end-plate and the top disc.
9. If the clutch end-plate is worn, damaged, or discolored, inspect the clearance between the clutch end-plate and the top disc, then replace the clutch end-plate.

**CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION**

1. Place the clutch wave-plate (A) on a surface plate, and set a dial indicator (B) on the wave-plate.

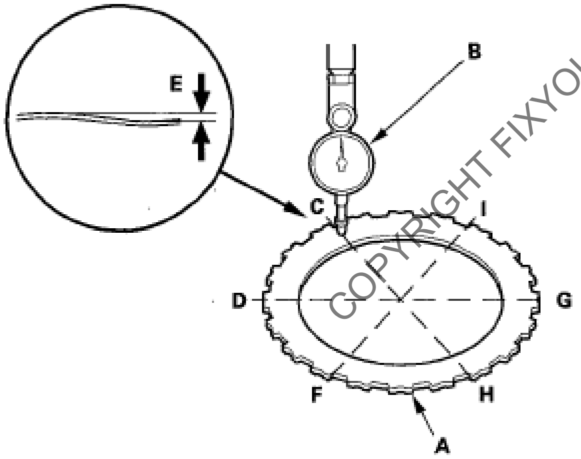


**Fig. 443: Checking Clutch Wave-Plate Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Find the bottom (C) of a phase difference of the wave-plate, zero the dial indicator and make a reference mark on the bottom of the wave-plate.
3. Rotate the 1st clutch wave-plate about 56-degrees or 67-degrees apart from the bottom while holding the wave-plate by its circumference, and rotate the 3rd and 5th clutch wave-plate about 60-degrees apart from the bottom while holding the wave-plate by its circumference. The dial indicator should be at the top (D) of a phase difference. Do not rotate the wave-plate while holding its

surface, always rotate it by holding its circumference.

4. Read the dial indicator. The dial indicator reads the phase difference (E) of the wave-plate between the bottom and top.

   **Standard: 0.07-0.20 mm (0.003-0.008 in.)**

5. Rotate the 1st clutch wave-plate about 67-degrees or 56-degrees from the top, and rotate the 3rd and 5th clutch wave-plate about 60-degrees. The dial indicator should be at the bottom of a phase difference (F and G), and zero the dial indicator.
6. Measure the phase difference at the other two tops (H and I) of the wave-plate by following steps 3 thru 5.
7. If the two values of the three measurements are within the standard, the wave-plate is OK. If the two values of the three measurements are out of the standard, replace the wave-plate.

### CLUTCH CLEARANCE INSPECTION

## Special Tools Required

*Clutch compressor attachment 07ZAE-PRP0100*

1. Inspect the clutch piston, discs, plates, and the end-plate for wear and damage (see **CLUTCH INSPECTION** ), and inspect the clutch wave-plate phase difference (see **CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION** ), if necessary.
2. Install the clutch pistons in the clutch drums. Do not install the O-rings during inspection.

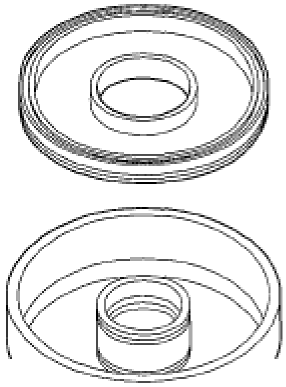


**Fig. 444: Identifying Clutch Pistons**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the waved spring (A) in the 1st clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (6) and the discs (D) (6). Install the clutch end-plate (E) with the flat side down on the top disc.

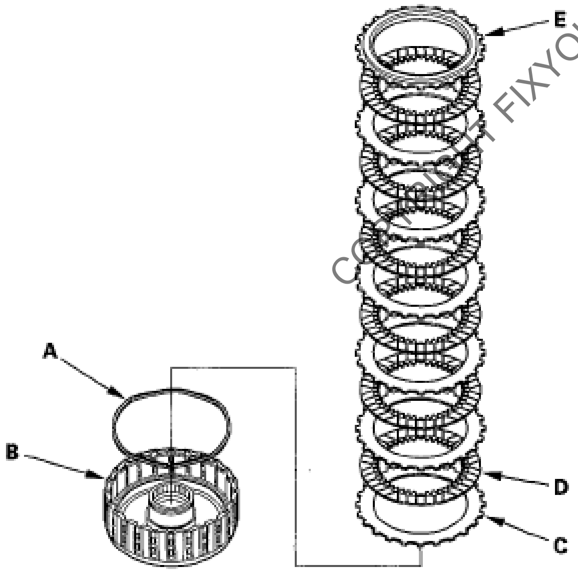


**Fig. 445: Disassembling 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the waved spring (A) in the 2nd clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

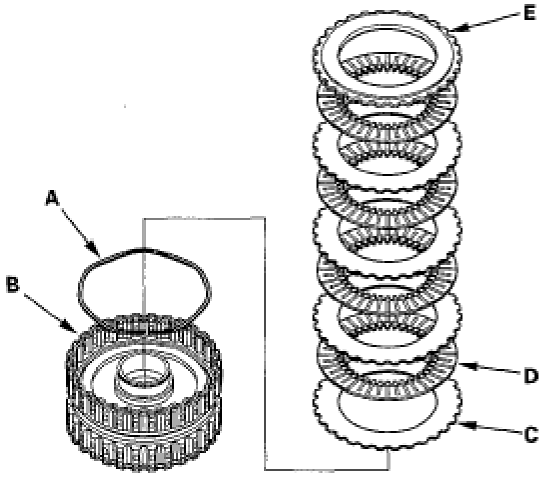


**Fig. 446: Disassembling 2nd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the waved spring (A) in the 4th clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

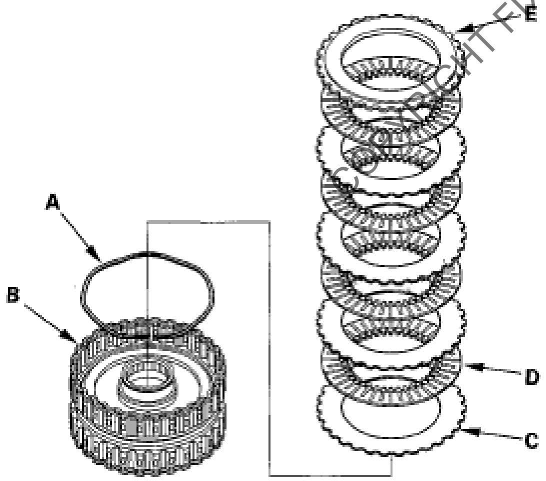


**Fig. 447: Disassembling 4th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the waved spring (A) in the 3rd clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

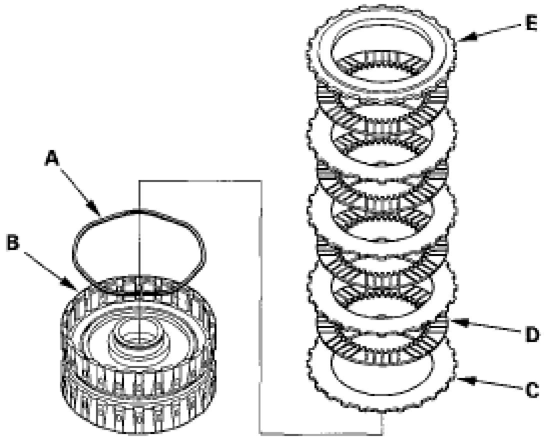


Fig. 448: Disassembling 3rd Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the waved spring (A) in the 5th clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

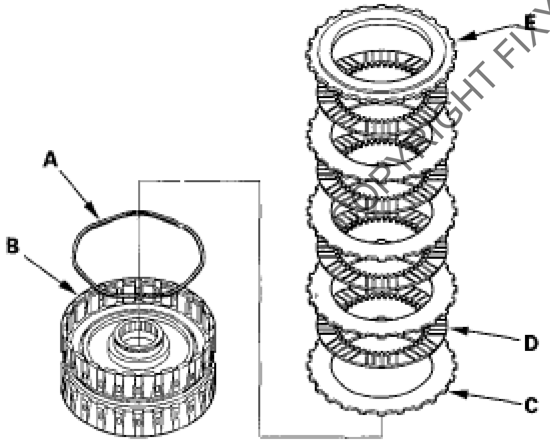


Fig. 449: Disassembling 5th Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the snap ring using a screwdriver to secure the clutch end-plate.

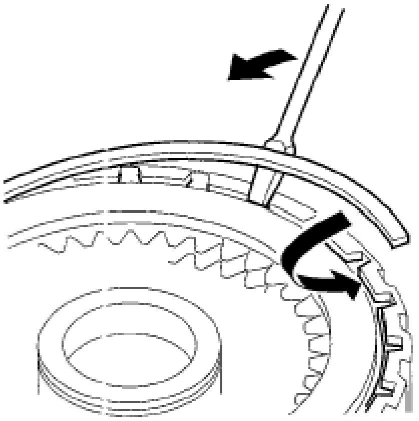


**Fig. 450: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Set a dial indicator (A) on the clutch end-plate (B).

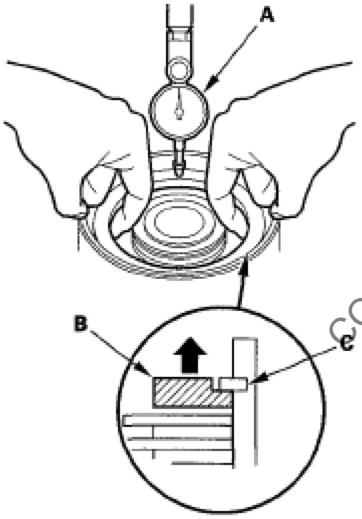


**Fig. 451: Setting Dial Indicator On Clutch End-Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Zero the dial indicator with the clutch end-plate lifted up to the snap ring (C).
11. Release the clutch end-plate to lower the clutch end-plate, then put the clutch compressor attachment on the end-plate (A).

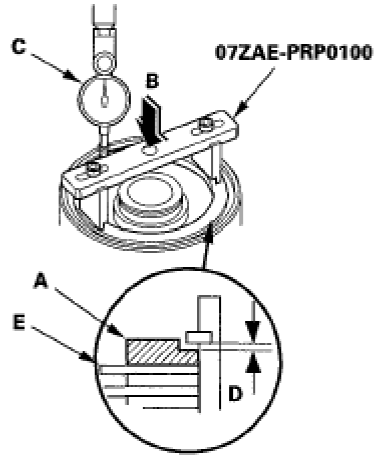


**Fig. 452: Pressing Clutch Compressor Attachment Down**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. For the 1st, 3rd, and 5th clutches: Press the clutch compressor attachment down with 150-160 N (15-16 kgf, 33-35 lbf) (B) using a force gauge, and read the dial indicator (C). The dial indicator reads the clearance (D) between the clutch end-plate and top disc (E). Take measurements in at least three places, and use the average as the actual clearance.
13. For 2nd and 4th clutches: Press the clutch compressor attachment down with 39 N (4 kgf, 9 lbf) (B) using a force gauge, and read the dial indicator (C). The dial indicator reads the clearance (D) between the clutch end-plate and top disc (E). Take measurements in at least three places, and use the average as the actual clearance.

    **Clearance between Clutch End-Plate and Top Disc Service Limit:**

    **1st Clutch: 1.62-1.82 mm (0.064-0.072 in.)**

    **2nd Clutch: 0.7-0.9 mm (0.028-0.035 in.)**

    **3rd Clutch: 0.93-1.13 mm (0.037-0.044 in.)**

    **4th Clutch: 0.7-0.9 mm (0.028-0.035 in.)**

    **5th Clutch: 0.93-1.13 mm (0.037-0.044 in.)**

14. If the clearance of the 1st, 3rd, or 5th clutch is out of the service limit, select a

new clutch end-plate from the following table.

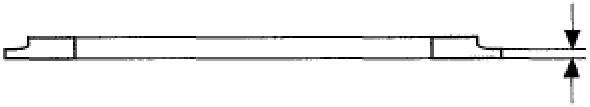


**Fig. 453: Identifying Clearance Between Clutch And Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### 1ST CLUTCH END-PLATES

### 1ST CLUTCH END-PLATES THICKNESS SPECIFICATION

| Mark | Part Number | Thickness |
|---|---|---|
| 1 | 22551-RPC-003 | 2.1 mm (0.083 in.) |
| 2 | 22552-RPC-003 | 2.2 mm (0.087 in.) |
| 3 | 22553-RPC-003 | 2.3 mm (0.091 in.) |
| 4 | 22554-RPC-003 | 2.4 mm (0.094 in.) |
| 5 | 22555-RPC-003 | 2.5 mm (0.098 in.) |
| 6 | 22556-RPC-003 | 2.6 mm (0.102 in.) |
| 7 | 22557-RPC-003 | 2.7 mm (0.106 in.) |
| 8 | 22558-RPC-003 | 2.8 mm (0.110 in.) |
| 9 | 22559-RPC-003 | 2.9 mm (0.114 in.) |

### 3RD and 5TH CLUTCH END-PLATES

### 3RD AND 5TH CLUTCH END-PLATES THICKNESS SPECIFICATION

| Mark | Part Number | Thickness |
|---|---|---|
| 1 | 22561-RPC-003 | 2.1 mm (0.083 in.) |
| 2 | 22562-RPC-003 | 2.2 mm (0.087 in.) |
| 3 | 22563-RPC-003 | 2.3 mm (0.091 in.) |
| 4 | 22564-RPC-003 | 2.4 mm (0.094 in.) |
| 5 | 22565-RPC-003 | 2.5 mm (0.098 in.) |
| 6 | 22566-RPC-003 | 2.6 mm (0.102 in.) |
| 7 | 22567-RPC-003 | 2.7 mm (0.106 in.) |
| 8 | 22568-RPC-003 | 2.8 mm (0.110 in.) |
| 9 | 22569-RPC-003 | 2.9 mm (0.114 in.) |

15. If the clearance of the 2nd or 4th clutch is out of the service limit, remove the clutch end-plate and check the clutch end-plate mark. Select a new clutch end-plate from the following tables by the mark on the old clutch end-plate; use the AC-AL Plates table with the old clutch end-plate is marked with between AC and AL, and use the AM-AV Plates table with the old clutch end-plate is marked with between AM and AV.

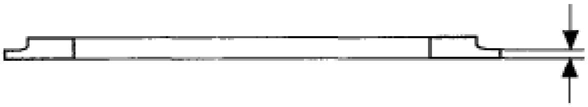


**Fig. 454: Identifying Clearance Between Clutch And Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2ND and 4TH CLUTCH END-PLATES**

## AC-AL Plates

### 2ND AND 4TH CLUTCH END-PLATES THICKNESS SPECIFICATION (AC-AL PLATES)

| Mark | Part Number | Thickness |
|---|---|---|
| AC | 22551-RPC-004 | 2.1 mm (0.083 in.) |
| AD | 22552-RPC-004 | 2.2 mm (0.087 in.) |
| AE | 22553-RPC-004 | 2.3 mm (0.091 in.) |
| AF | 22554-RPC-004 | 2.4 mm (0.094 in.) |
| AG | 22555-RPC-004 | 2.5 mm (0.098 in.) |
| AH | 22556-RPC-004 | 2.6 mm (0.102 in.) |
| AJ | 22557-RPC-004 | 2.7 mm (0.106 in.) |
| AK | 22558-RPC-004 | 2.8 mm (0.110 in.) |
| AL | 22559-RPC-004 | 2.9 mm (0.114 in.) |

## AM-AV Plates

### 2ND AND 4TH CLUTCH END-PLATES THICKNESS SPECIFICATION (AM-AV PLATES)

| Mark | Part Number | Thickness |
|---|---|---|
| AM | 22561-RPC-004 | 2.1 mm (0.083 in.) |
| AN | 22562-RPC-004 | 2.2 mm (0.087 in.) |
| AP | 22563-RPC- | 2.3 mm (0.091 |

| | | |
|---|---|---|
| | 004 | in.) |
| AQ | 22564-RPC-004 | 2.4 mm (0.094 in.) |
| AR | 22565-RPC-004 | 2.5 mm (0.098 in.) |
| AS | 22566-RPC-004 | 2.6 mm (0.102 in.) |
| AT | 22567-RPC-004 | 2.7 mm (0.106 in.) |
| AU | 22568-RPC-004 | 2.8 mm (0.110 in.) |
| AV | 22569-RPC-004 | 2.9 mm (0.114 in.) |

16. Install a new clutch end-plate, and recheck the clearance. If the thickest clutch end-plate is installed, but the clearance is still over the service limit, replace the clutch discs and plates.

### 1ST CLUTCH REASSEMBLY

## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

**NOTE:**

- **Hold the spring compressor attachment in a vise with soft jaws. Be careful not to damage the clutch drum.**
- **Insert the spring retainer can be adjusted (center of tolerance) to prevent damaging the spring retainer oil seal.**

1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
2. Install a new O-ring (A) in the 1st clutch piston (B), and install a new O-ring (C) on the clutch drums (D).

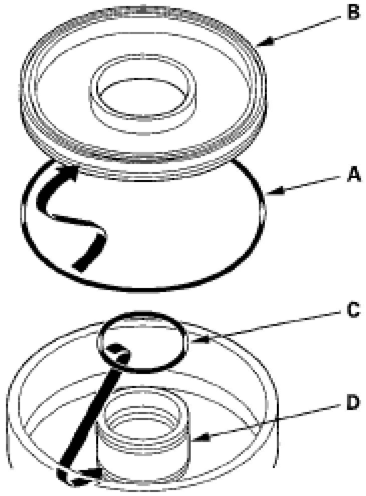


**Fig. 455: Installing O-Ring In 1st Clutch Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the clutch piston (A) in the clutch drum (B). Apply pressure and rotate to ensure proper seating. Lubricate the piston O-ring with ATF before installing. Do not pinch the O-ring by installing the piston with too much force.

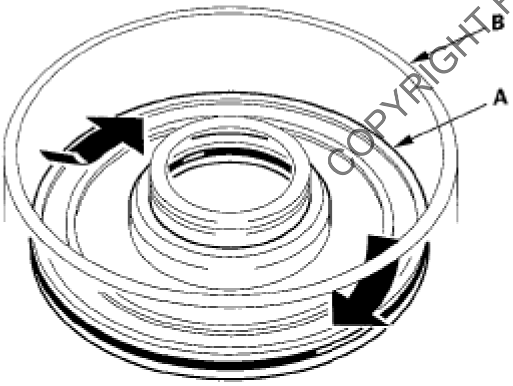


**Fig. 456: Installing Clutch Piston In Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Set the return spring (A) and the spring retainer (B), and position the snap ring (C) on the spring retainer.

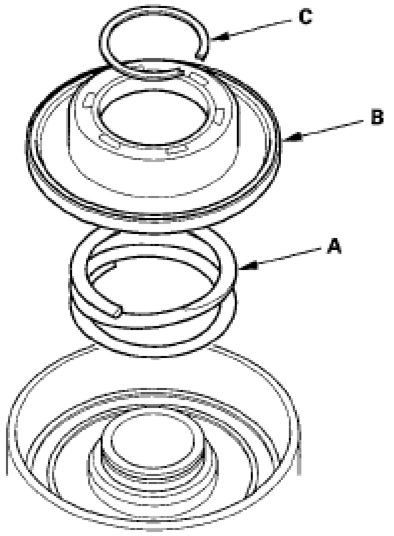


Fig. 457: Identifying Return Spring, Spring Retainer And Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

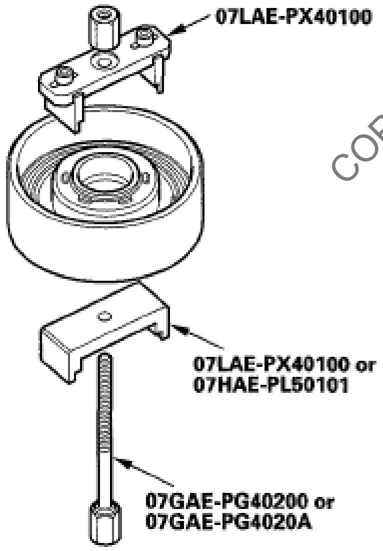

07LAE-PX40100
07LAE-PX40100 or
07HAE-PL50101
07GAE-PG40200 or
07GAE-PG4020A

Fig. 458: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Set the clutch spring compressor attachment (A) on the spring retainer (B) so that it compresses the clutch return spring (C).

**NOTE: Coat the circumference of the spring retainer and the areas where the spring retainer contacts the clutch piston with ATF before installation.**

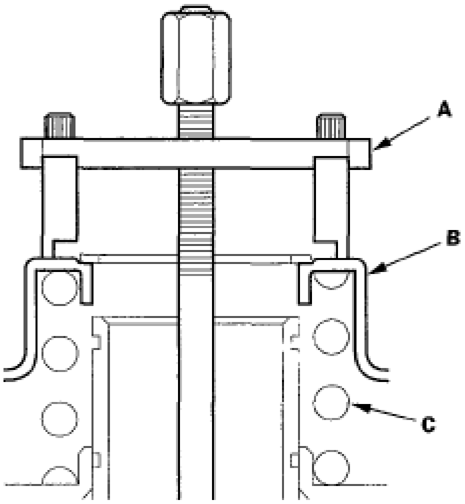


**Fig. 459: Setting Clutch Spring Compressor Attachment On Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Compress the return spring carefully until the snap ring can be installed. Check that the spring retainer (A) is properly installed on the clutch hub (B). If improperly installed, change the position of the spring compressor attachment and the spring retainer.

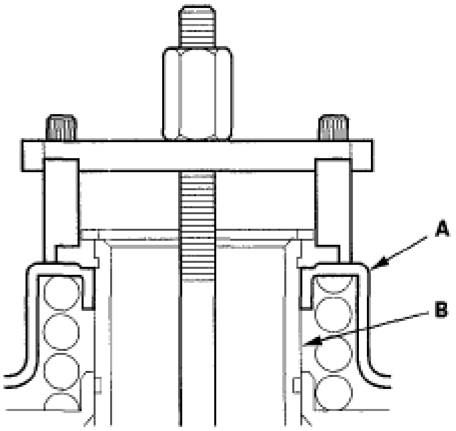


**Fig. 460: Identifying Spring Retainer And Clutch Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the snap ring with snap ring pliers.

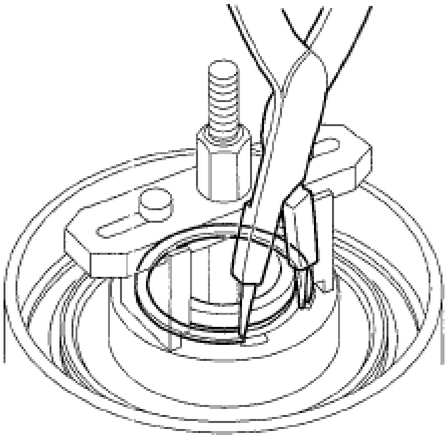


**Fig. 461: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Make sure the oil seal of the spring retainer (A) is properly installed on the clutch piston (B). If the oil seal was damaged or cracked, replace the spring retainer.

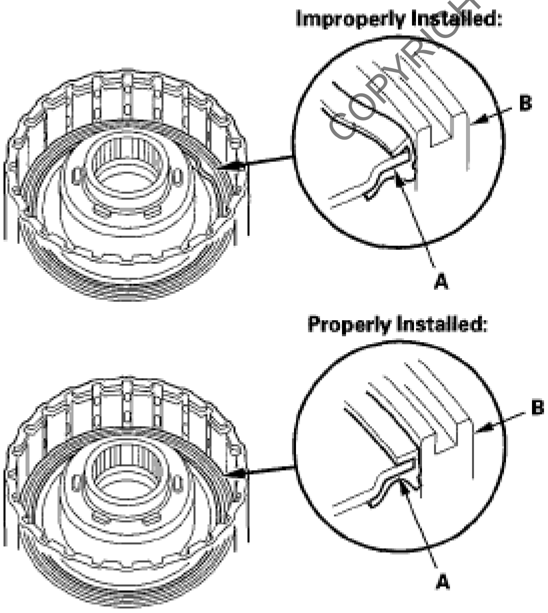


**Fig. 462: Identifying Spring Retainer Proper And Improper Installation Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the waved spring (A) in the 1st clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (6) and the discs (D) (6). Install the clutch end-plate (E) with the flat side down on the top disc.

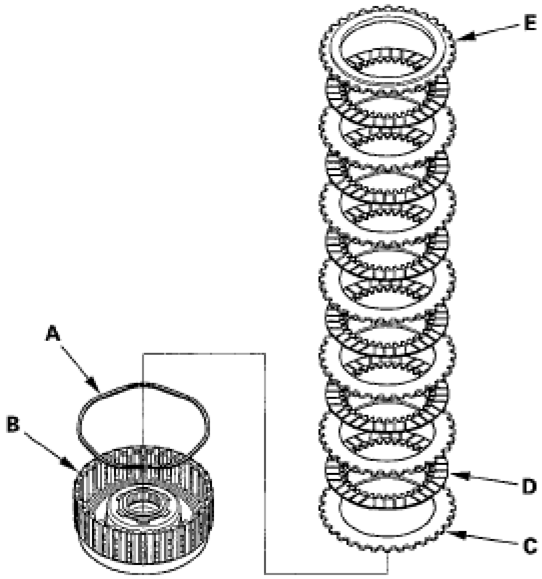


**Fig. 463: Disassembling 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install the snap ring using a screwdriver to secure the clutch end-plate.

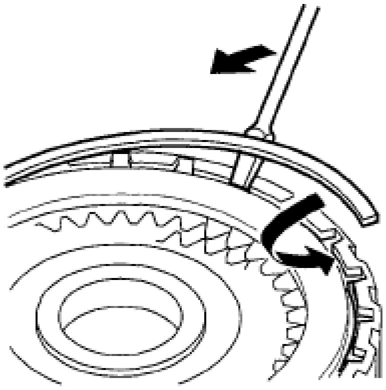


**Fig. 464: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Check that the clutch piston moves by applying air pressure into fluid passage.

**2ND, 3RD, 4TH, AND 5TH CLUTCH REASSEMBLY**

## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
2. Install new O-rings (A) on the clutch piston (B).

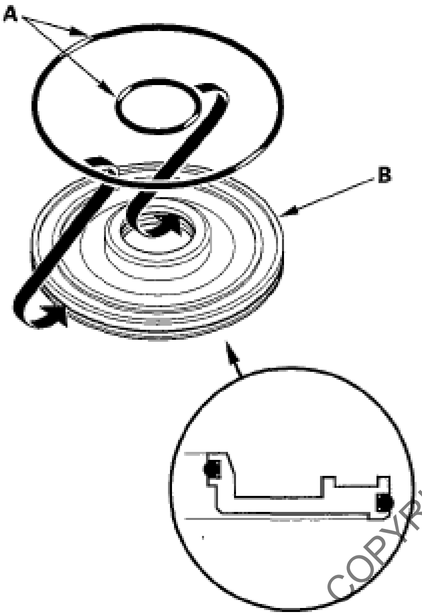


**Fig. 465: Installing O-Rings On Clutch Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the clutch piston (A) in the clutch drum (B) while applying pressure and rotating to ensure proper seating. Do not pinch the O-ring.

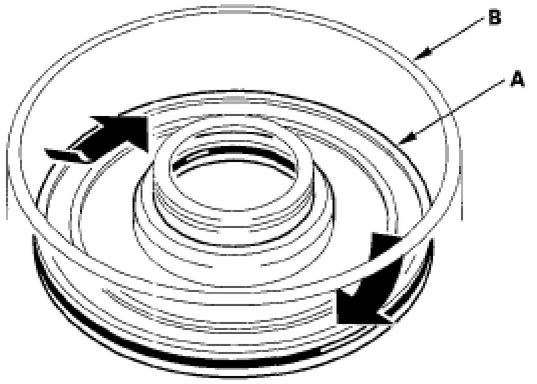


**Fig. 466: Installing Clutch Piston In Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Set the return spring (A) and the spring retainer (B), and position the snap ring (C) on the spring retainer.

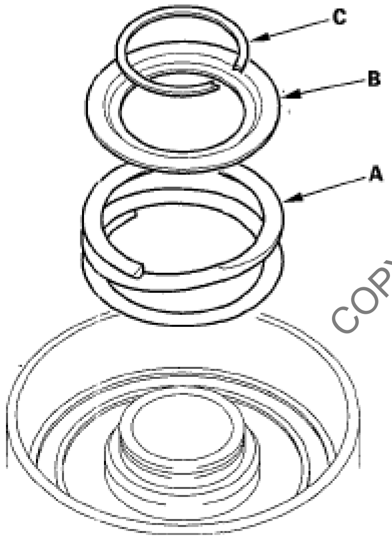


**Fig. 467: Identifying Return Spring, Spring Retainer And Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

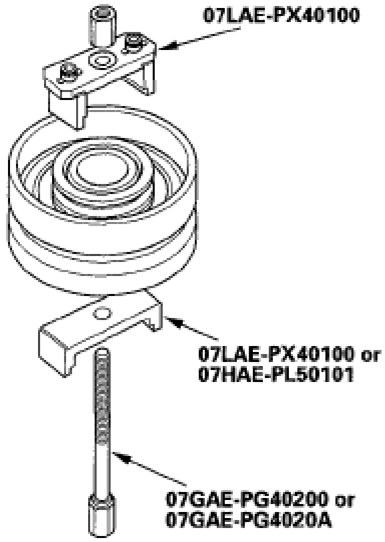

07LAE-PX40100
07LAE-PX40100 or
07HAE-PL50101
07GAE-PG40200 or
07GAE-PG4020A

**Fig. 468: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the spring retainer (B).

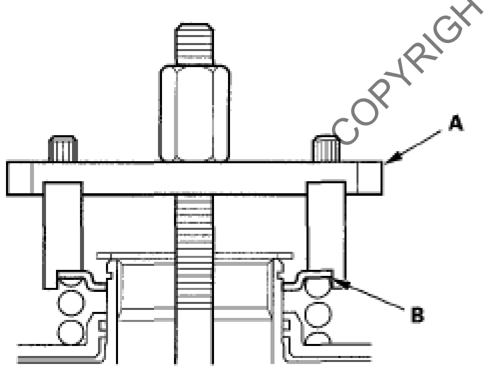


**Fig. 469: Identifying Clutch Spring Compressor Attachment With Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the placement of the clutch spring compressor attachment. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

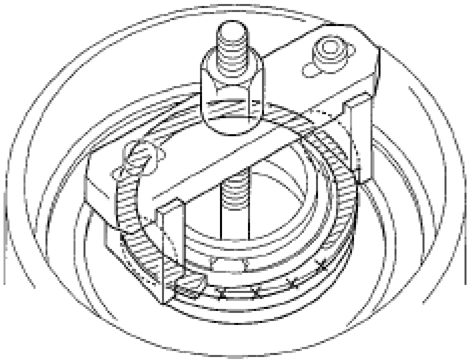


**Fig. 470: Identifying Clutch Spring Compressor Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Compress the return spring until the snap ring can be installed.

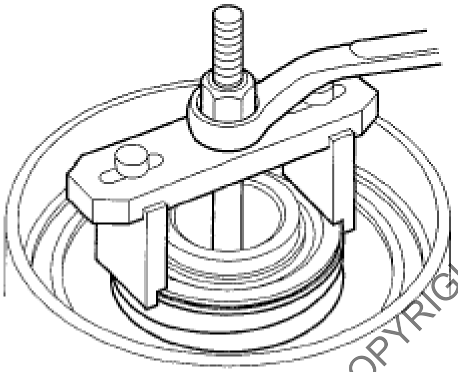


**Fig. 471: Compressing Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the snap ring using snap ring pliers.

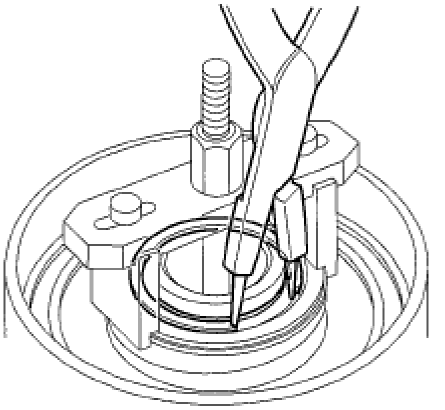


**Fig. 472: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the clutch spring compressor attachment and the clutch spring compressor bolt assembly.
11. Install the waved spring (A) in the 2nd clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

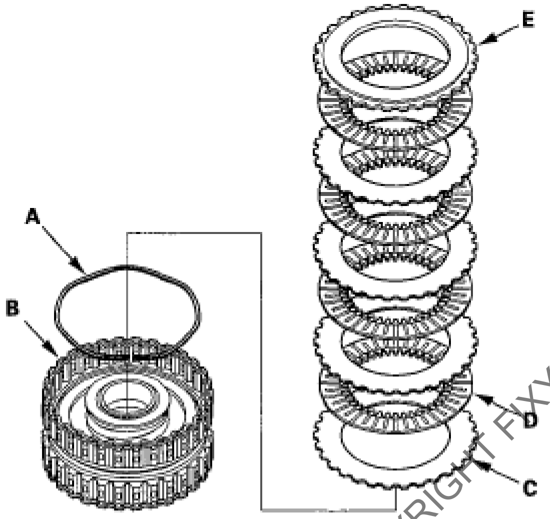


**Fig. 473: Disassembling 2nd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install the waved spring (A) in the 4th clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

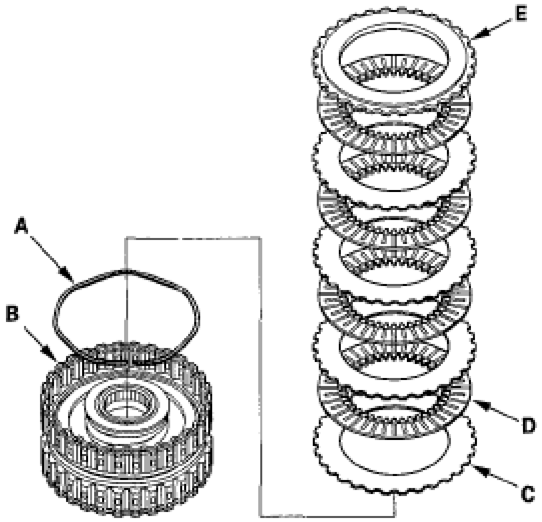


Fig. 474: Disassembling 4th Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the waved spring (A) in the 3rd clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

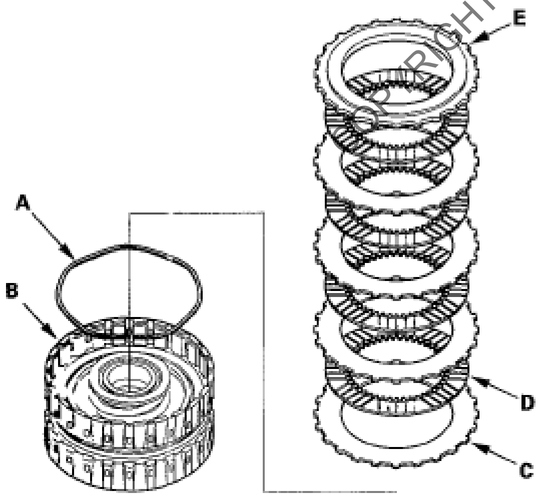


Fig. 475: Disassembling 3rd Clutch Drum
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the waved spring (A) in the 5th clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

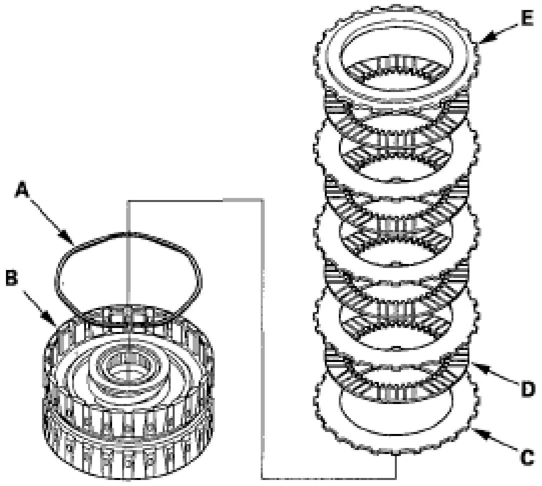


**Fig. 476: Disassembling 5th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the snap ring using a screwdriver to secure the clutch end-plate.

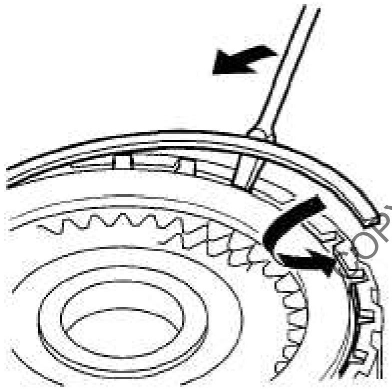


**Fig. 477: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check that the clutch piston moves by applying air pressure into fluid passage.

### VALVE BODY AND ATF STRAINER INSTALLATION

1. Make sure that the ATF magnet is cleaned and installed in the torque converter housing.

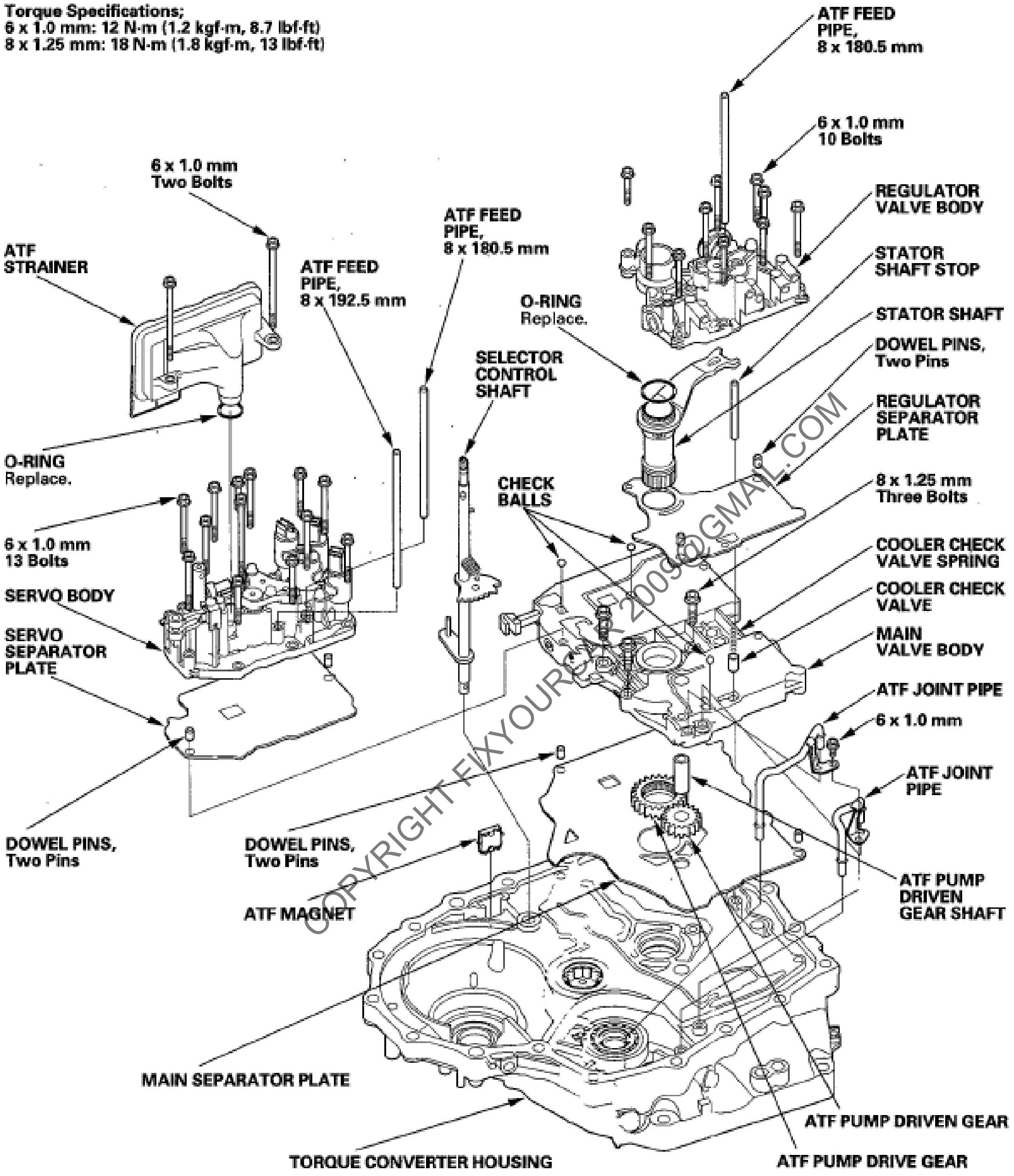

Torque Specifications;
6 x 1.0 mm: 12 N·m (1.2 kgf·m, 8.7 lbf·ft)
8 x 1.25 mm: 18 N·m (1.8 kgf·m, 13 lbf·ft)
ATF FEED PIPE, 8 x 180.5 mm
6 x 1.0 mm 10 Bolts
REGULATOR VALVE BODY
STATOR SHAFT STOP
STATOR SHAFT
DOWEL PINS, Two Pins
REGULATOR SEPARATOR PLATE
8 x 1.25 mm Three Bolts
COOLER CHECK VALVE SPRING
COOLER CHECK VALVE
MAIN VALVE BODY
ATF JOINT PIPE
6 x 1.0 mm
ATF JOINT PIPE
ATF PUMP DRIVEN GEAR SHAFT
ATF PUMP DRIVEN GEAR
ATF PUMP DRIVE GEAR
6 x 1.0 mm Two Bolts
ATF STRAINER
ATF FEED PIPE, 8 x 192.5 mm
ATF FEED PIPE, 8 x 180.5 mm
O-RING Replace.
SELECTOR CONTROL SHAFT
CHECK BALLS
O-RING Replace.
6 x 1.0 mm 13 Bolts
SERVO BODY
SERVO SEPARATOR PLATE
DOWEL PINS, Two Pins
DOWEL PINS, Two Pins
ATF MAGNET
MAIN SEPARATOR PLATE
TORQUE CONVERTER HOUSING

**Fig. 478: Exploded View Of Valve Body And ATF Strainer w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the main separator plate and the two dowel pins on the torque converter housing.
3. Install the ATF pump drive gear (A), the ATF pump driven gear (B), and the ATF pump driven gear shaft (C). Install the ATF pump driven gear with its

grooved and chamfered side facing down.

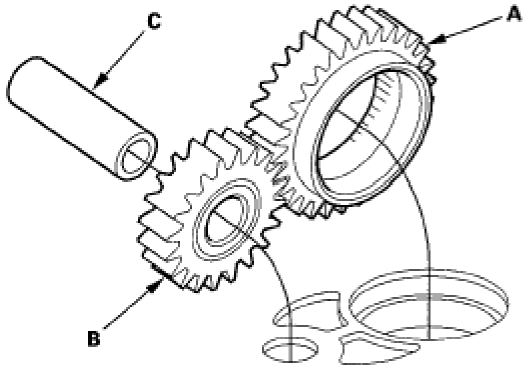


**Fig. 479: Identifying ATF Pump Drive Gear, ATF Pump Driven Gear And ATF Pump Driven Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the main valve body.
5. Make sure the ATF pump drive gear (A) rotates smoothly in the normal operating direction, and the ATF pump driven gear shaft (B) moves smoothly in the axial and normal operating direction.

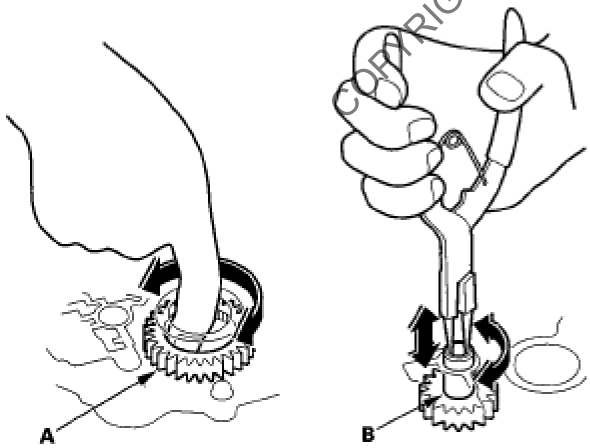


**Fig. 480: Checking ATF Pump Drive Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the ATF pump drive gear and the ATF pump driven gear shaft do not move smoothly, loosen the main valve body bolts. Realign the ATF pump driven gear shaft, and retighten the bolts to the specified torque, then recheck. Failure to align the ATF pump driven gear shaft correctly will result in a seized ATF

pump drive gear or ATF pump driven gear shaft.

7. Make sure that the three check balls and the cooler check valve are in the main valve body, then install the cooler check valve spring in the cooler check valve.
8. Install the ATF joint pipes between the main valve body and the torque converter housing.
9. Install the regulator separator plate and the two dowel pins on the main valve body.
10. Install a new O-ring on the stator shaft, and install the stator shaft and the stator shaft stop.
11. Install the regulator valve body (10 bolts).
12. Install the servo separator plate and the two dowel pins on the main valve body.
13. Install the servo body (13 bolts).
14. If the detent arm was removed, install the detent arm (A) with arm collar (B) on the servo body (C), and install a new lock washer (D) by aligning its cutout (E) with the projection (F) of the servo body. Install and tighten the bolt, then bend the lock tab (G) of the lock washer against the bolt head.

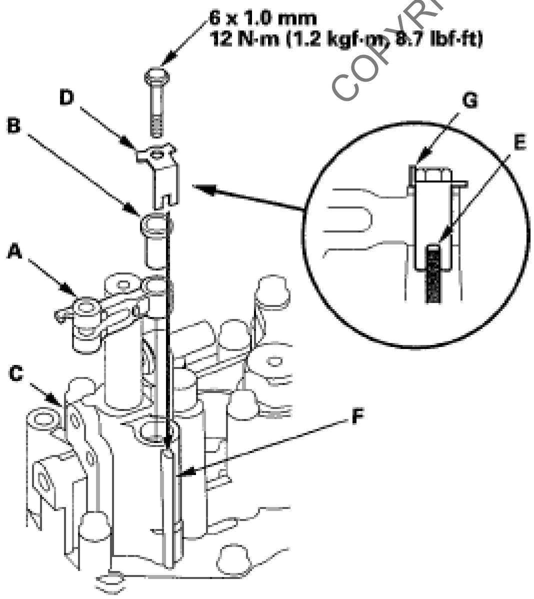


**Fig. 481: Aligning Cutout With Projection Of Servo Body & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the selector control shaft (A) in the torque converter housing while aligning the manual valve lever pin (B) on the selector control shaft with the guide of the manual valve (C).

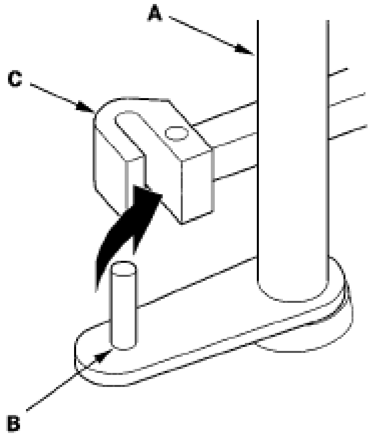


**Fig. 482: Aligning Manual Valve Lever Pin On Selector Control Shaft With Guide Of Manual Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Hook the detent arm spring (A) to the detent arm (B).

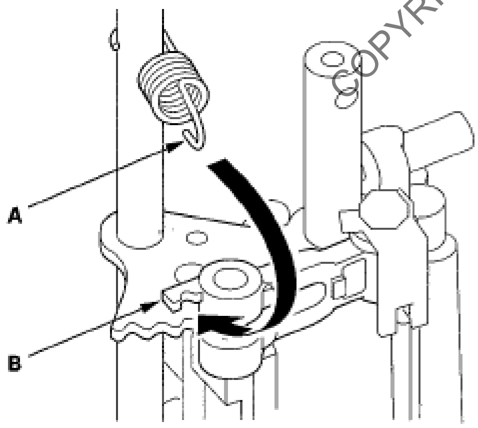


**Fig. 483: Hooking Detent Arm Spring To Detent Arm**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Install a new O-ring on the ATF strainer, and install the ATF strainer (two bolts).
18. Install the 8 x 180.5 mm ATF feed pipe in the regulator valve body.

19. Install the 8 x 192.5 mm ATF feed pipe and the 8 x 180.5 mm ATF feed pipe in the servo body.

### SHAFT ASSEMBLY AND HOUSING INSTALLATION

1. Install the spacer in the torque converter housing with the spacer tab into the guide of the torque converter housing. Do not mix-up the spacers from the transmission housing and the torque converter housing. Install the differential assembly in the torque converter housing, and put the spacer on the differential.

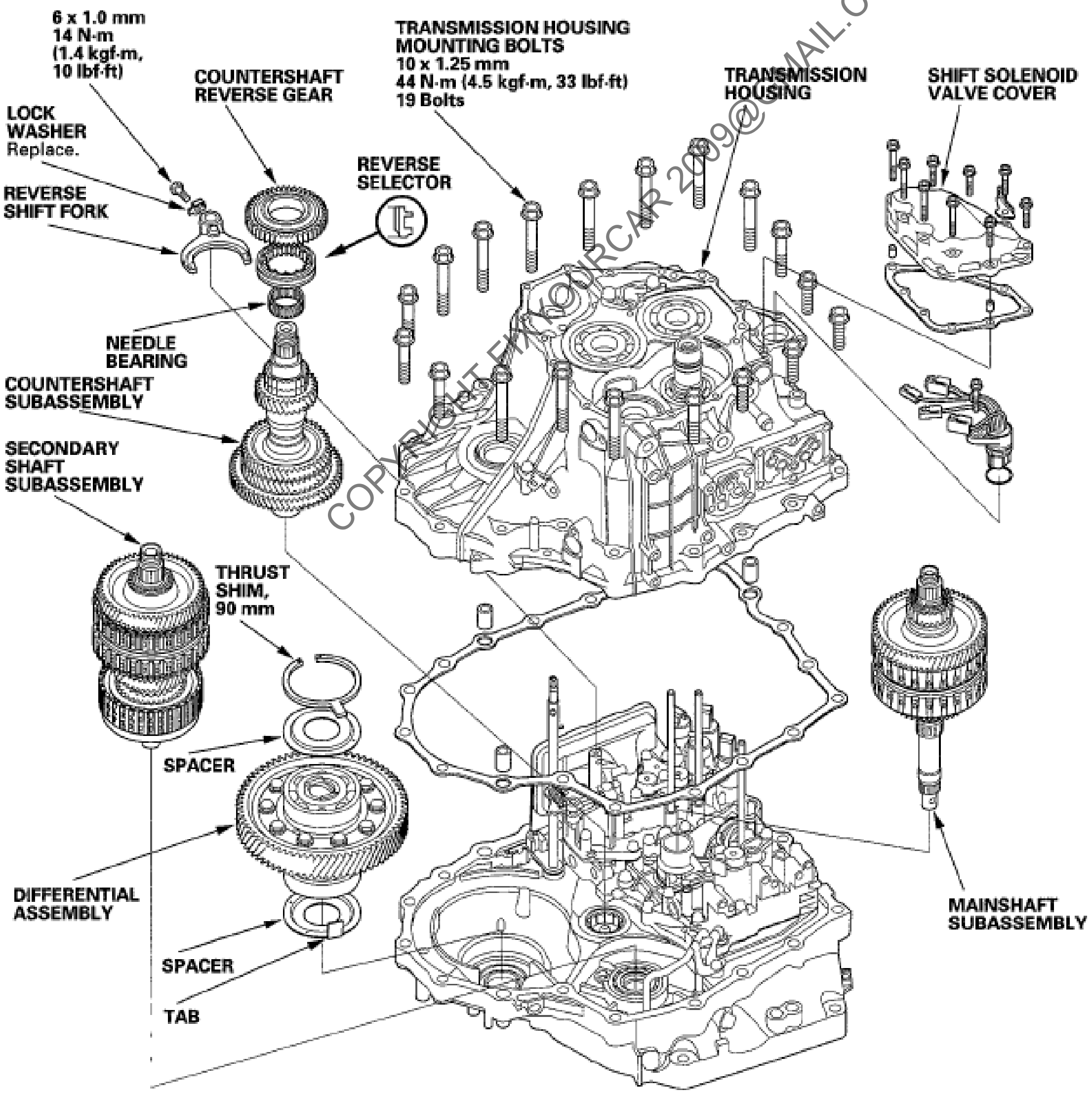

6 x 1.0 mm
14 N·m
(1.4 kgf·m,
10 lbf·ft)
COUNTERSHAFT REVERSE GEAR
TRANSMISSION HOUSING MOUNTING BOLTS
10 x 1.25 mm
44 N·m (4.5 kgf·m, 33 lbf·ft)
19 Bolts
TRANSMISSION HOUSING
SHIFT SOLENOID VALVE COVER
LOCK WASHER
Replace.
REVERSE SELECTOR
REVERSE SHIFT FORK
NEEDLE BEARING
COUNTERSHAFT SUBASSEMBLY
SECONDARY SHAFT SUBASSEMBLY
THRUST SHIM, 90 mm
SPACER
DIFFERENTIAL ASSEMBLY
SPACER
TAB
MAINSHAFT SUBASSEMBLY

**Fig. 484: Exploded View Of Shaft Assembly, Housing & Bolt Torque**

Specification
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly securely in the torque converter housing so there is no clearance.
3. Install the 90 mm thrust shim in the transmission housing.
4. Assemble the mainshaft, the countershaft, and the secondary shaft.
    - Countershaft reverse selector hub is press-fitted type, go to step 5.
    - Countershaft reverse selector hub is not press-fitted type, go to step 6.
5. Join the mainshaft subassembly (A), the countershaft subassembly (B), and the secondary shaft subassembly (C) together, and install them in the torque converter housing.

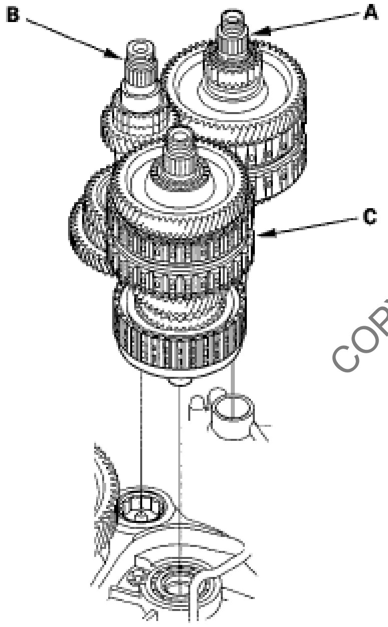


**Fig. 485: Identifying Mainshaft Subassembly, Countershaft Subassembly And Secondary Shaft Subassembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Join the countershaft subassembly and the secondary shaft subassembly together, then install them in the torque converter housing, and install the mainshaft subassembly. Install the needle bearings, 4th-5th gear, and the reverse selector hub over the countershaft.

7. Turn the shift fork shaft (A) so the large chamfered hole (B) is facing the fork bolt hole (C) of the shift fork (D).

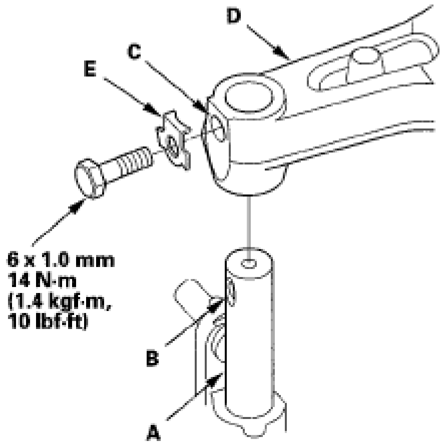


**Fig. 486: Identifying Shift Fork Shaft, Shift Fork, Lock Washer & Bolt Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the shift fork and the reverse selector together on the shift fork shaft and the countershaft. Secure the shift fork to the shift fork shaft with the lock bolt and a new lock washer (E), then bend the lock tab of the lock washer against the bolt head.
9. Install the needle bearing and the countershaft reverse gear on the countershaft.
10. Install the reverse idler gear in the transmission housing (see **REVERSE IDLER GEAR INSTALLATION** ).
11. Install the three dowel pins (A) and a new gasket (B) on the torque converter housing (C).

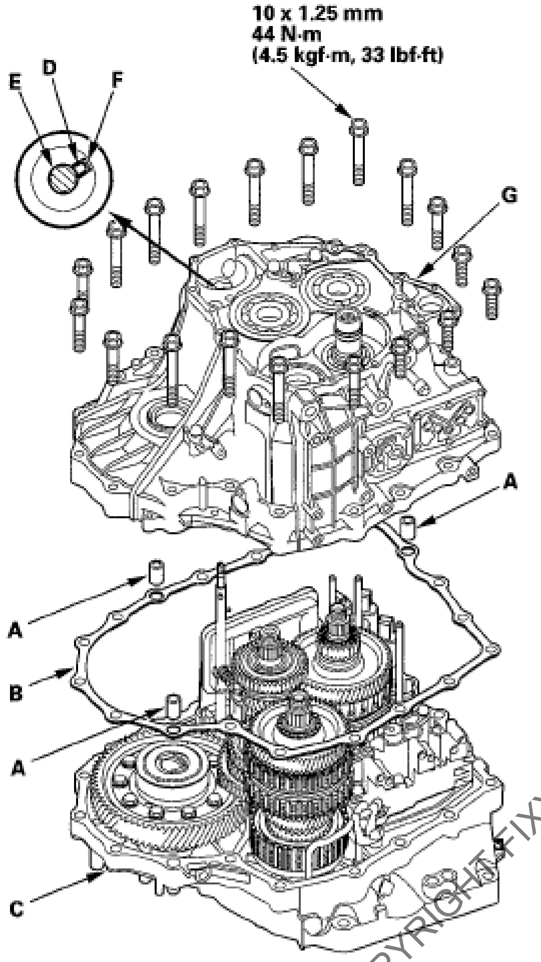


**Fig. 487: Disassembling Torque Converter Housing & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Align the spring pin (D) of the control shaft (E) with the transmission housing groove (F) by turning the selector control shaft detent plate. Do not squeeze the end of the selector control shaft tips together when turning the shaft. If the tips are squeezed together, it will causes a faulty shift position signal or position due to the play between the selector control shaft and the switch.
13. Place the transmission housing (G) on the torque converter housing. Do not install the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor before installing the transmission housing on the torque converter housing.
14. Wrap a screwdriver tip with tape to prevent damage to the reverse idler gear

teeth. Engage the reverse idler gear with the reverse gears by rotating the idler gear using the screwdriver.

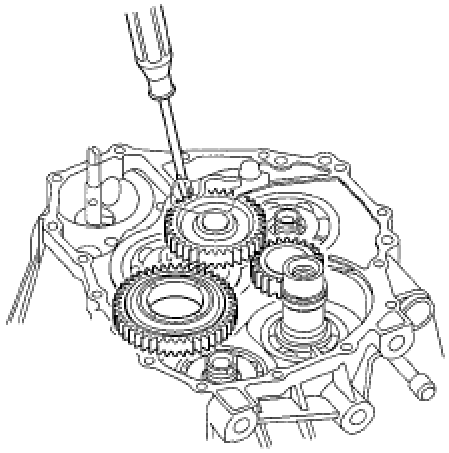


**Fig. 488: Engaging Reverse Idler Gear With Reverse Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the transmission housing mounting bolts, and tighten the 19 bolts to 44 N.m (4.5 kgf.m, 33 lbf.ft) in two or more steps in a crisscross pattern.
16. Install the shift solenoid harness connector (E) in the transmission housing with a new O-ring (F).

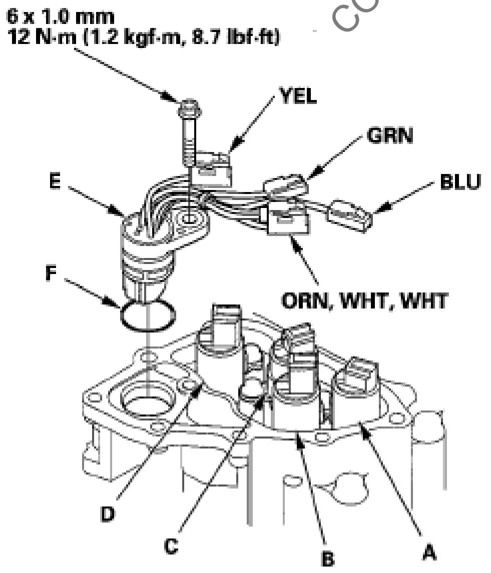


**Fig. 489: Identifying Shift Solenoid Harness Connector, Transmission Housing, O-Ring & Bolt Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Connect WHT harnesses and ORN harness connector to shift solenoid valve B. ATF temperature sensor is assembled in the connector with WHT harnesses.
18. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
19. Install the shift solenoid valve cover (A), the two dowel pins (B), a new gasket (C), and the harness clamp bracket (D).

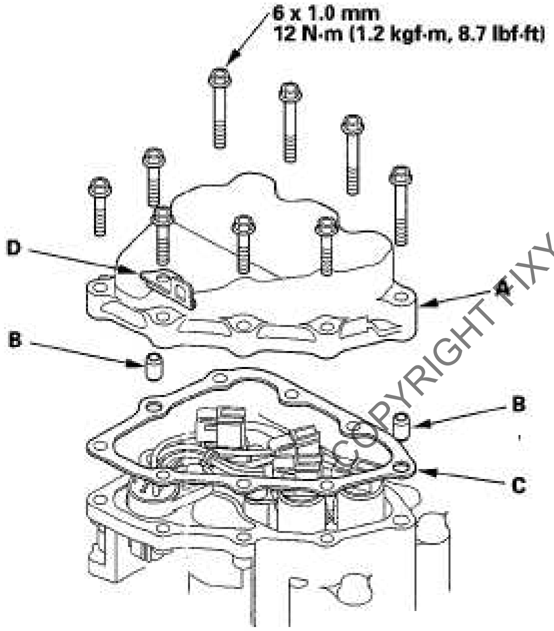


**Fig. 490: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Bolt Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### END COVER INSTALLATION

## Special Tools Required

- Mainshaft holder 07GAB-PF50101 or 07GAB-PF50100
- Gear installer set 070AC-XFD0100

1. Install the mainshaft holder onto the mainshaft.

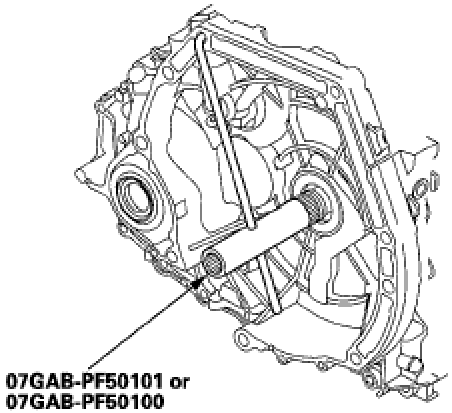


**Fig. 491: Identifying Mainshaft Holder Onto Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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2. Lubricate the following parts with ATF:
   - Splines and threads of the mainshaft.
   - Splines of the mainshaft idler gear.
   - Old conical spring washer and old locknut.
3. Install the mainshaft idler gear (A), the old conical spring washer (B), and the old locknut (C) on the mainshaft (D), and tighten the locknut to 216 N.m (22.0 kgf.m, 159 lbf.ft).

**NOTE:**

- **Do not tap the idler gear to install.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**

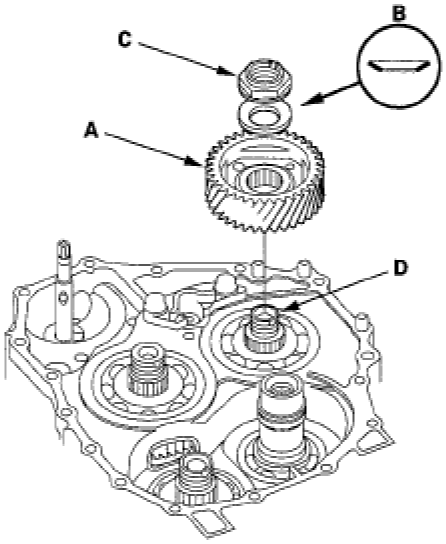

**Fig. 492: Identifying Mainshaft Idler Gear, Old Conical Spring Washer, Old Locknut And Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Lubricate the following parts with ATF:
    - Splines and threads of the secondary shaft and the idler gear shaft.
    - Splines of the secondary shaft idler gear.
    - Old conical spring washer and old locknut.
5. Install the secondary shaft idler gear (A) on the secondary shaft (B), and install the idler gear shaft idler gear (C) on the idler gear shaft (D).

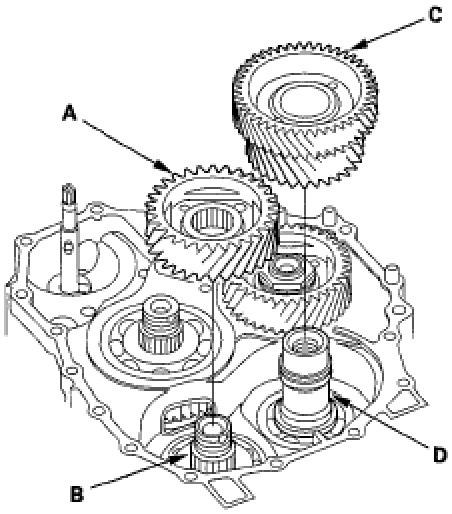

**Fig. 493: Identifying Secondary Shaft Idler Gear, Secondary Shaft, Idler Gear Shaft Idler Gear And Idler Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Set the gear installer set on the idler gear shaft and the idler gear, and tighten the installer nut to install the idler gear part-way.

**NOTE: The installer nut has left-hand threads.**

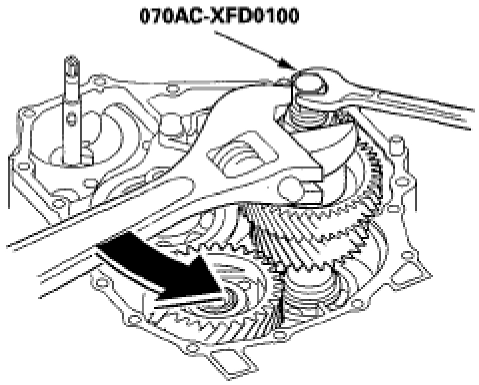

**Fig. 494: Tightening Installer Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the old conical spring washer (A) and the old locknut (B) on the secondary shaft (C), and tighten the locknut to 226 N.m (23.0 kgf.m, 166 lbf.ft).

**NOTE:**

- **Do not tap the idler gear to install.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
- **Secondary shaft locknut has left-hand threads.**

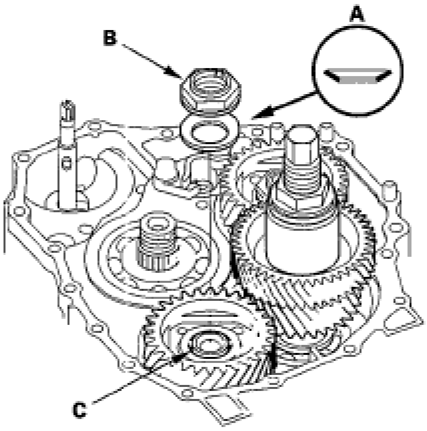

**Fig. 495: Identifying Conical Spring Washer, Locknut And Secondary Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Retighten the installer nut to seat the idler gear in the idler gear shaft until it stops. Remove the gear installer set from the idler gear shaft.

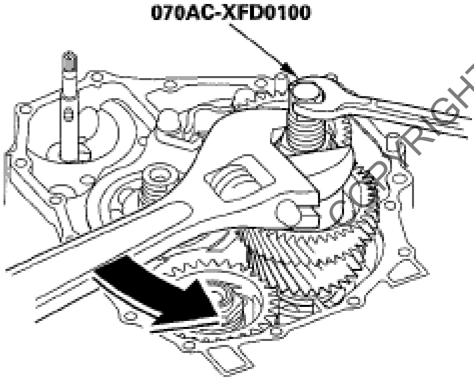

**Fig. 496: Tightening Installer Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install a new snap ring (A) on the idler gear shaft (B), and check that the snap ring is seated securely into the groove.

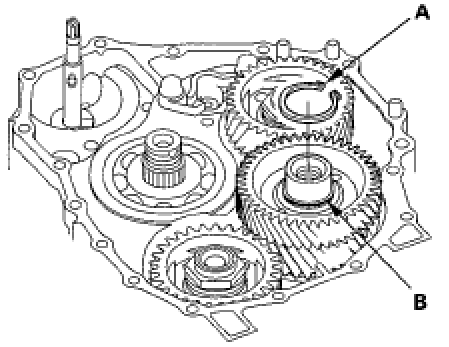

**Fig. 497: Identifying Snap Ring And Idler Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the park lever (A) and the park lever stop (B) on the selector control shaft (C), then install the lock bolt and a new lock washer (D). Do not bend the lock tab of the lock washer until step 23.

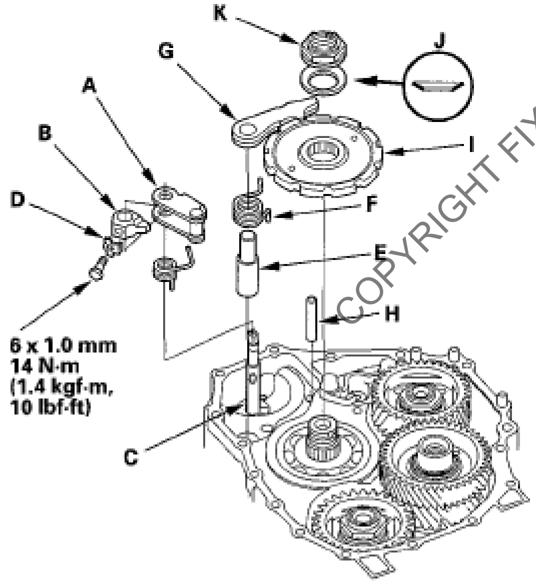

**Fig. 498: Identifying Park Lever, Park Lever Stop, Selector Control Shaft & Screw w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install the park pawl shaft (E), the park pawl spring (F), the park pawl (G), and the stop shaft (H) on the transmission housing.
12. Lubricate the following parts with ATF:
    - Threads and splines of the countershaft.

   - Old conical spring washer and old locknut.
   - Areas where the park gear contacts the conical spring washer.

13. Install the park gear (I), the old conical spring washer (J), and the old locknut (K) on the countershaft.
14. Lift the park pawl up, and engage it with the park gear, then tighten the locknut to 226 N.m (23.0kgf.m, 166 lbf.ft).

    **NOTE:**
    - **Do not tap the park gear to install.**
    - **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
    - **Countershaft locknut has left-hand threads.**

15. Remove the locknuts and the conical spring washers from the mainshaft, the countershaft, and the secondary shaft.
16. Lubricate the threads of the shafts, the new locknuts and the new conical spring washers with ATF.
17. Install new conical spring washers (A) (B) with facing stamped mark side up in the direction shown, and install a new mainshaft locknut (C), a new countershaft locknut (D), and a new secondary shaft locknut (E).

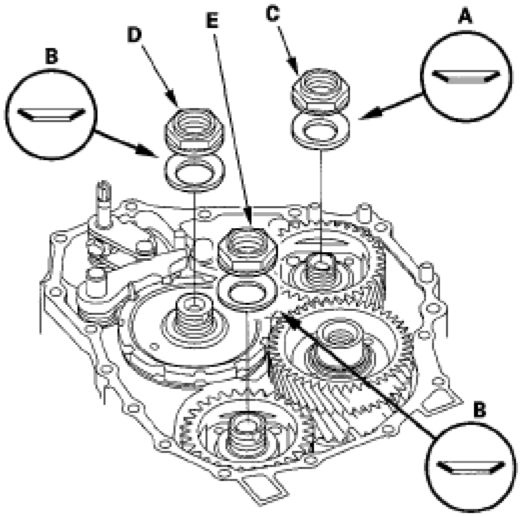

**Fig. 499: Identifying Conical Spring Washers, Mainshaft Locknut And Countershaft Locknut**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Tighten the countershaft locknut and the secondary shaft locknut to 167 N.m (17.0 kgf.m, 123 lbf.ft), and tighten the mainshaft locknut to 155 N.m (15.8 kgf.m, 114 lbf.ft).

**NOTE:**

- **Be sure to install the conical spring washers in the direction shown.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
- **Countershaft and secondary shaft locknuts have left-hand threads.**

19. Remove the mainshaft holder from the mainshaft.
20. Stake the locknuts into the shafts to a depth (A) of 0.7-1.3 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

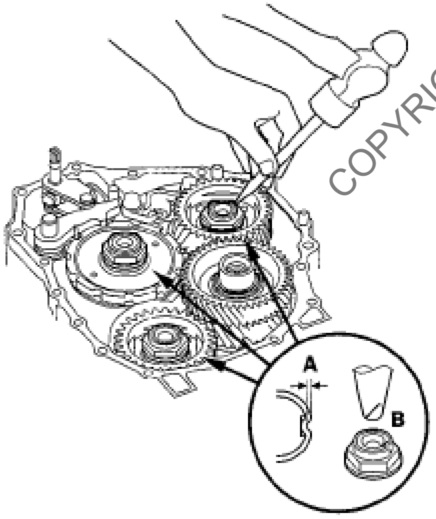

**Fig. 500: Staking Locknuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Set the park pawl (A) in the P position, then check that the park pawl engages with the park gear (B).

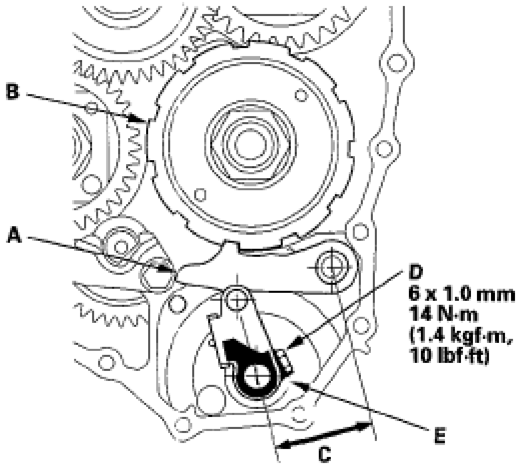

**Fig. 501: Identifying Distance Between Park Pawl Shaft, Extension Line & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. If the park pawl does not engage fully, check the distance (C) between the park pawl shaft and the extension line connected centers of the park lever roller pin and the selector control shaft (see **PARK LEVER STOP INSPECTION AND ADJUSTMENT** ).
23. Tighten the lock bolt (D), and bend the lock tab of the lock washer (E) against the bolt head.
24. Install the ATF lubrication pipe (A) into the idler gear shaft (B).

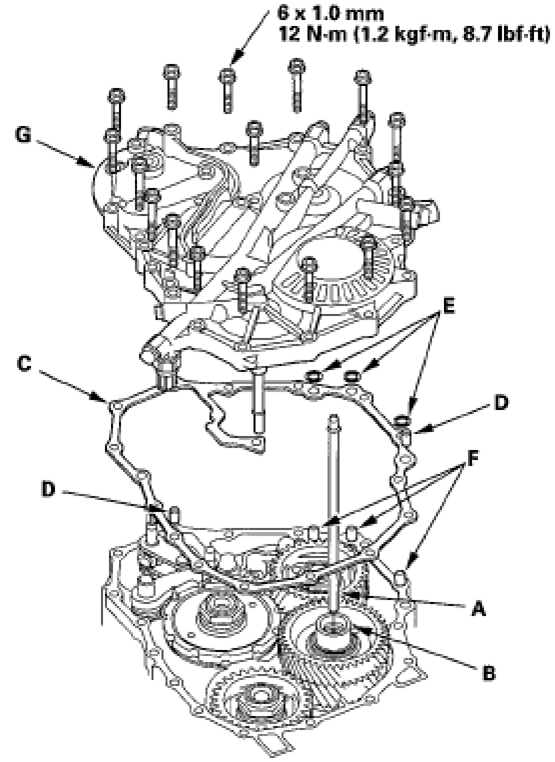

**Fig. 502: Identifying ATF Lubrication Pipe, Idler Gear Shaft, Gasket, Dowel Pins & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install a new gasket (C) on the transmission housing, and install the two dowel pins (D) and new O-rings (E) over the top of the ATF feed pipes (F).
26. Install the end cover (G), and tighten the 17 bolts.
27. Set the selector control shaft (A) to the N position by turning the selector control shaft on the torque converter side.

**NOTE:** **Do not squeeze the end of the selector control shaft tips together when turning the shaft. If the selector control shaft tips are squeezed together it will cause a faulty signal or position due to play between the selector control shaft and the transmission range switch.**

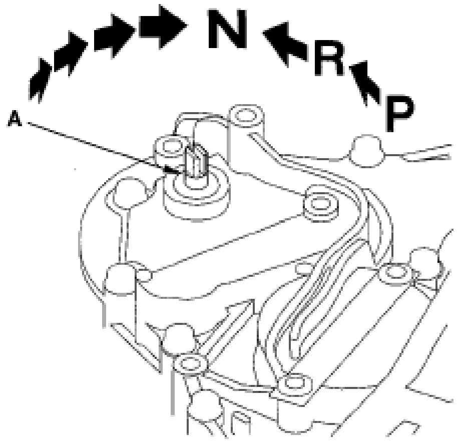

**Fig. 503: Setting Selector Control Shaft To N Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Align the cutouts (A) on the rotary-frame with the neutral positioning cutouts (B) on the transmission range switch (C), then put a 2.0 mm (0.08 in.) feeler gauge blade (D) in the cutouts to hold the switch in the N position.

    **NOTE: Be sure to use a 2.0 mm (0.08 in.) blade or equivalent to hold the switch in the N position.**

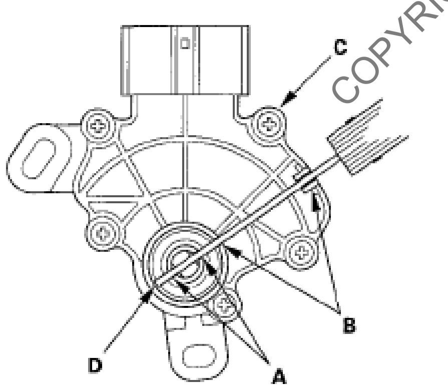

**Fig. 504: Aligning Cutouts On Rotary-Frame With Neutral Positioning Cutouts On Transmission Range Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Install the transmission range switch (A) gently on the selector control shaft (B) while holding it in the N position with the 2.0 mm (0.08 in.) blade (C).

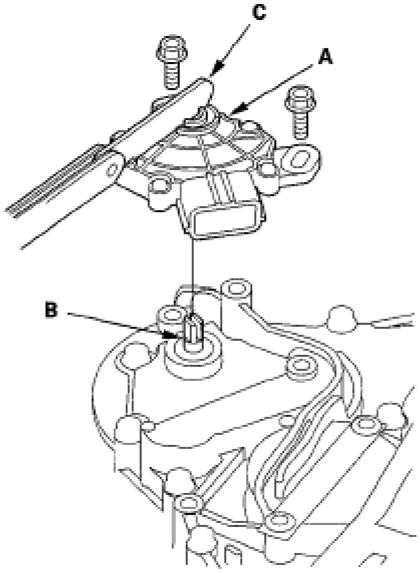

**Fig. 505: Holding N Position With Blade**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Tighten the bolts on the transmission range switch while you continue to hold it in the N position. Do not move the transmission range switch while tightening the bolts. Remove the feeler gauge.

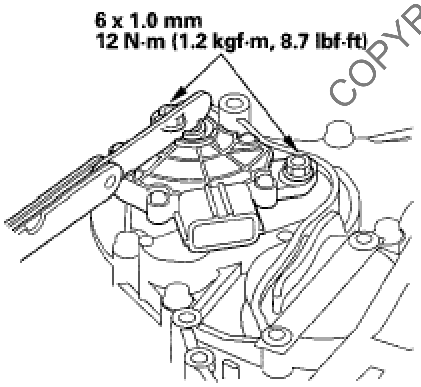

**Fig. 506: Tightening Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Install the harness clamp bracket (A) on the end cover (B).

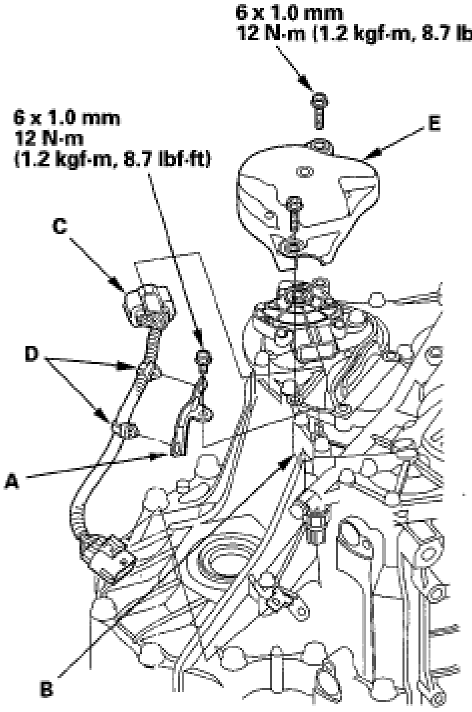
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
6 x 1.0 mm
12 N·m
(1.2 kgf·m, 8.7 lbf·ft)
E
C
D
A
B

**Fig. 507: Identifying Transmission Range Switch Cover, Harness Clamp Bracket, Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Connect the transmission range switch connector (C) securely, then install the harness clamps (D) on the clamp bracket.
33. Install the transmission range switch cover (E).
34. Install a new O-ring (A) on the input shaft (mainshaft) speed sensor (B), then install the input shaft (mainshaft) speed sensor.

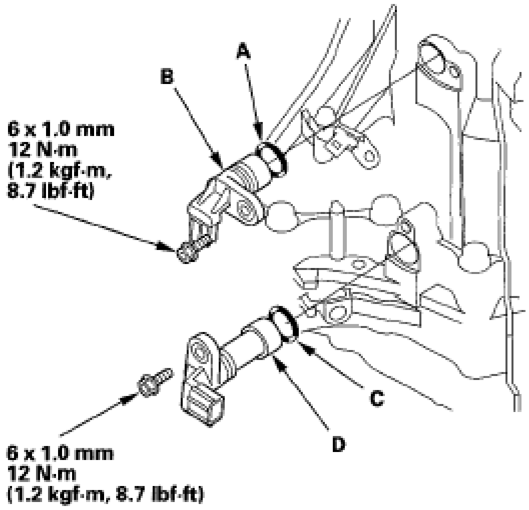
A
B
6 x 1.0 mm
12 N·m
(1.2 kgf·m,
8.7 lbf·ft)
C
D
6 x 1.0 mm
12 N·m
(1.2 kgf·m, 8.7 lbf·ft)

**Fig. 508: Identifying Input Shaft (Mainshaft) Speed Sensor, O-Ring & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Install a new O-ring (C) on the output shaft (countershaft) speed sensor (D), then install the output shaft (countershaft) speed sensor.
36. Install a new gasket (B) on the transmission housing, and install the ATF pipe (C) and the ATF joint pipes (D).

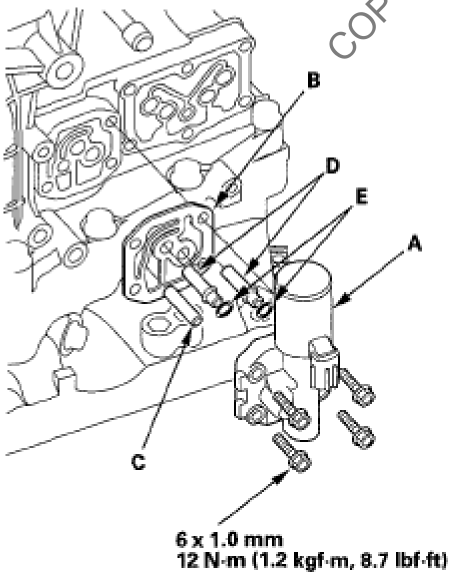
B
D
E
A
C
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 509: Identifying ATF Pipe, ATF Joint Pipes, Gasket, O-Ring & Bolts w/Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Install new O-rings (E) over the ATF joint pipes, and install A/T clutch pressure control solenoid valve A.
38. Install a new gasket (A) with facing the blue side to the transmission housing and the white side faces to the A/T clutch pressure control solenoid valve body.

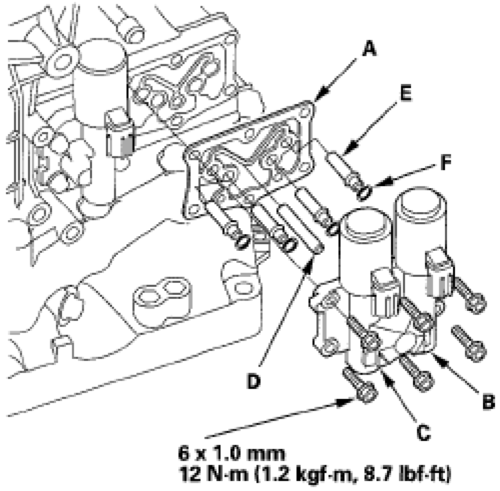

**Fig. 510: Identifying ATF Pipe, ATF Joint Pipes, O-Ring & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Install the ATF pipe (D) and the ATF joint pipes (E), and install new O-rings (F) over the ATF joint pipes.
40. Install A/T clutch pressure control solenoid valves B and C.
41. Install the ATF warmer bracket.

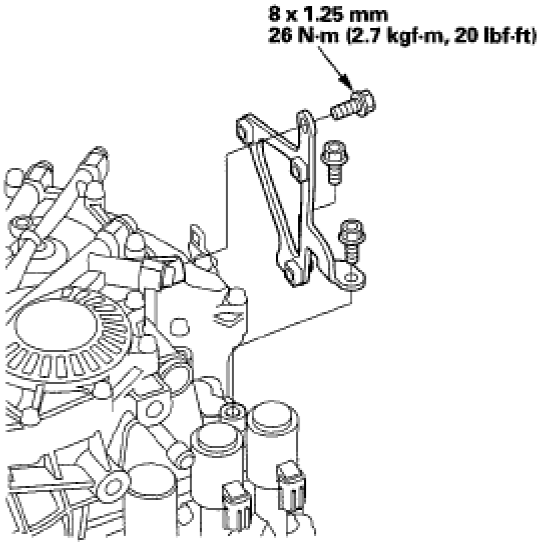
8 x 1.25 mm
26 N·m (2.7 kgf·m, 20 lbf·ft)

**Fig. 511: Identifying ATF Warmer Bracket & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the ATF outlet line (A) on the torque converter housing, and secure it with the line bolt (B) and new sealing washers (C).

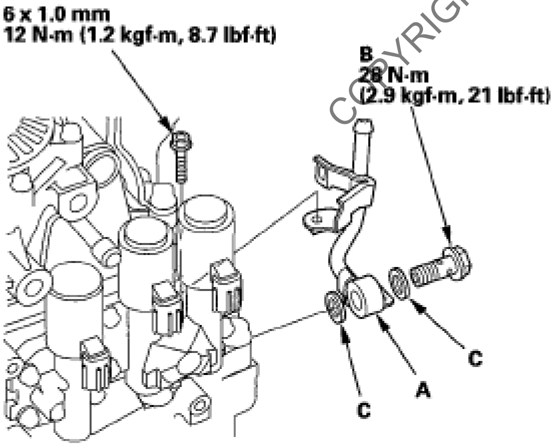
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
B
28 N·m
(2.9 kgf·m, 21 lbf·ft)
C
A
C

**Fig. 512: Identifying ATF Outlet Line, Sealing Washers & Bolts w/ Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

43. Secure the ATF outlet line with the bracket bolt.
44. Install the transmission hanger (A).

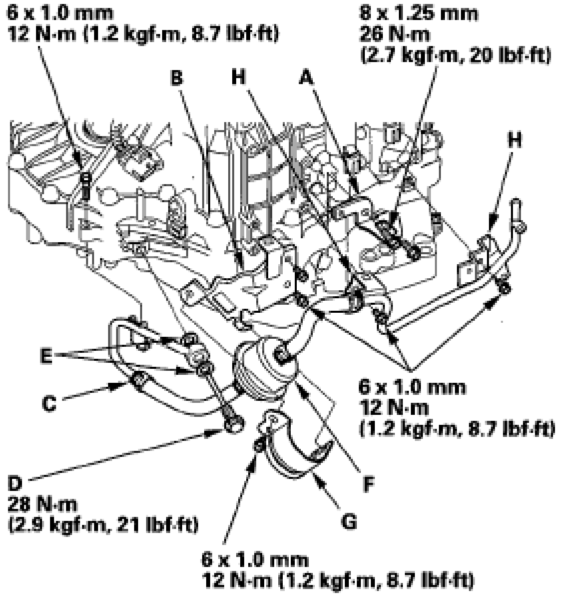
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)
8 x 1.25 mm
26 N·m
(2.7 kgf·m, 20 lbf·ft)
B
H
A
H
E
C
6 x 1.0 mm
12 N·m
(1.2 kgf·m, 8.7 lbf·ft)
D
28 N·m
(2.9 kgf·m, 21 lbf·ft)
F
G
6 x 1.0 mm
12 N·m (1.2 kgf·m, 8.7 lbf·ft)

**Fig. 513: Identifying Transmission Hanger, ATF Filter Bracket, Line Brackets & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Install the ATF filter bracket (B).
46. Install the ATF inlet line and the hose (C) on the torque converter housing, and secure it with the line bolt (D) and new sealing washers (E).
47. Put the ATF filter (F) on its bracket, and secure with the bracket (G) and the bolt.
48. Secure the line brackets (H) with the bolts on the transmission hanger and the torque converter housing.
49. Install the breather cap on the breather pipe.
50. Install the ATF dipstick.

## A/T DIFFERENTIAL

### COMPONENT LOCATION INDEX

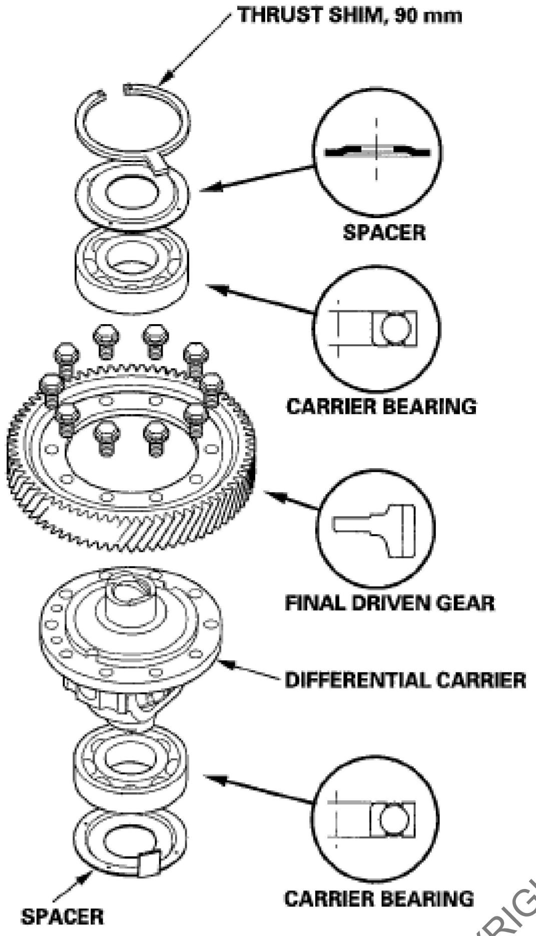
THRUST SHIM, 90 mm
SPACER
CARRIER BEARING
FINAL DRIVEN GEAR
DIFFERENTIAL CARRIER
CARRIER BEARING
SPACER

**Fig. 514: Identifying A/T Differential Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BACKLASH INSPECTION**

1. Install both axles into the differential, and place the axles on V-blocks (A).

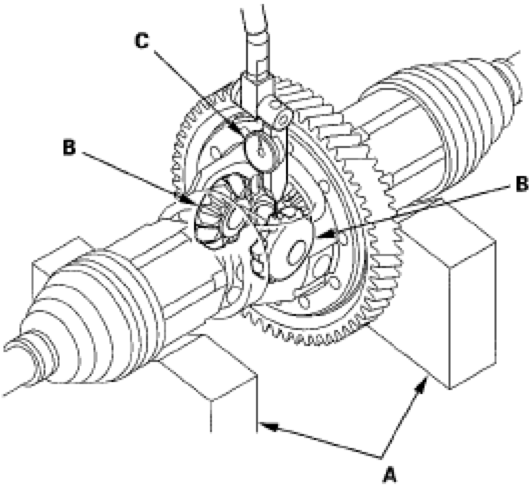

**Fig. 515: Measuring Backlash Of Pinion Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the backlash of the pinion gears (B) using a dial indicator (C).

   **Standard: 0.05-0.15 mm (0.002-0.006 in.)**

3. If the backlash is out of standard, replace the differential carrier (see **DIFFERENTIAL CARRIER AND FINAL DRIVEN GEAR REPLACEMENT** ).

### DIFFERENTIAL CARRIER AND FINAL DRIVEN GEAR REPLACEMENT

1. Remove the final driven gear (A) from the differential carrier (B). The final driven gear bolts have left-hand threads.

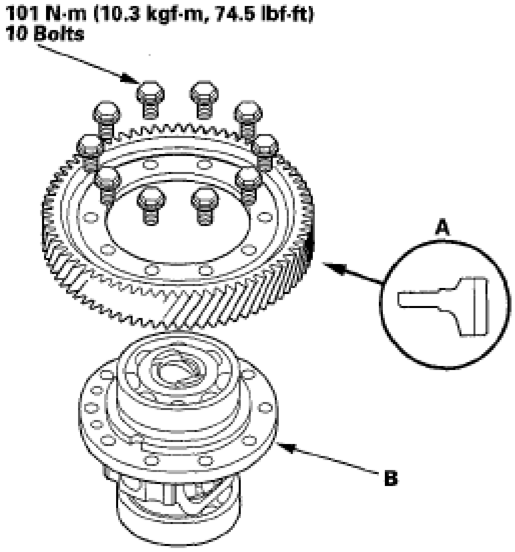

Fig. 516: Identifying Final Driven Gear, Differential Carrier & Bolts w/Torque Specification
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new final driven gear on the differential carrier in the direction shown. Tighten the bolts to 101 N.m (10.3 kgf.m, 74.5 lbf.ft) in a crisscross pattern in two or more steps.

### CARRIER BEARING REPLACEMENT

## Special Tools Required

Driver, 40 mm I.D. 07746-0030100

**NOTE: Check the bearing for wear and rough rotation. If the bearing is OK, removal is not necessary.**

1. Place a collar (A) on the differential carrier, and remove the carrier bearing (B) using the commercially available bearing puller (C).

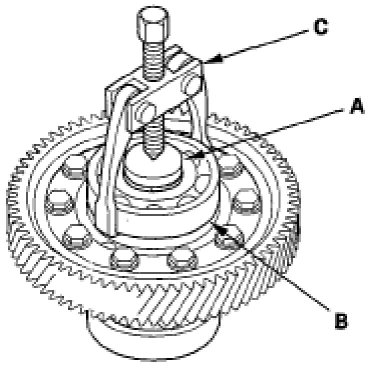

**Fig. 517: Removing Carrier Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new bearing using the 40 mm I.D. driver and a press. Press the bearing on until it bottoms.

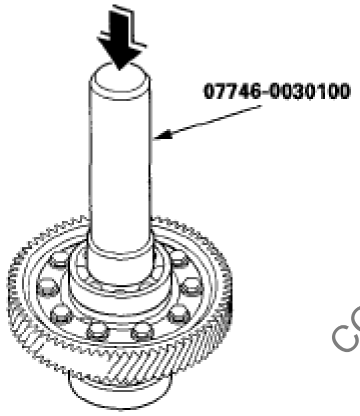

**Fig. 518: Pressing Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### OIL SEAL REPLACEMENT

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 07JAD-PH80101

1. Remove the oil seal from the transmission housing.

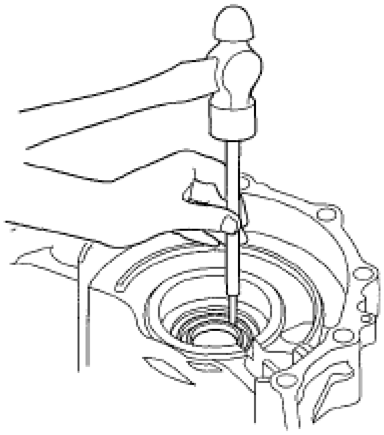

**Fig. 519: Identifying Oil Seal From Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal from the torque converter housing.

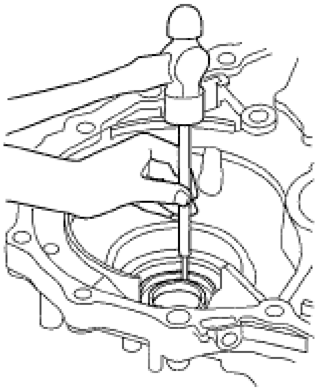

**Fig. 520: Identifying Oil Seal From Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new oil seal flush with the transmission housing using the driver and the oil seal driver attachment.

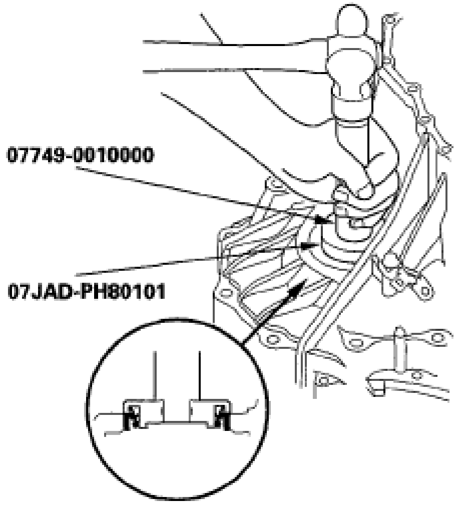

**Fig. 521: Identifying Oil Seal Flush With Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new oil seal in the torque converter housing using the driver and the oil seal driver attachment.

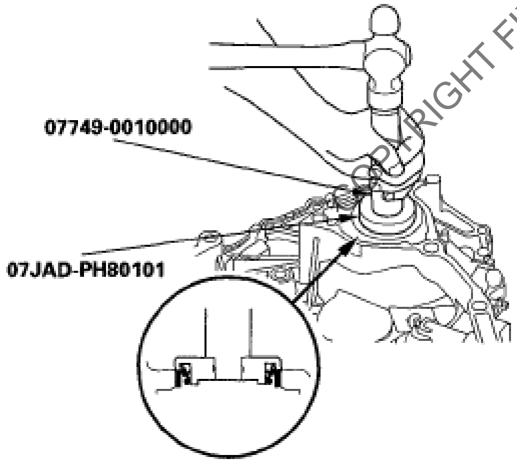

**Fig. 522: Identifying Oil Seal In Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### CARRIER BEARING SIDE CLEARANCE INSPECTION

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

1. Install the spacer (A) in the torque converter housing with the spacer tab (B) into the guide. Do not install the spacers mix-up in the transmission housing and the torque converter housing.

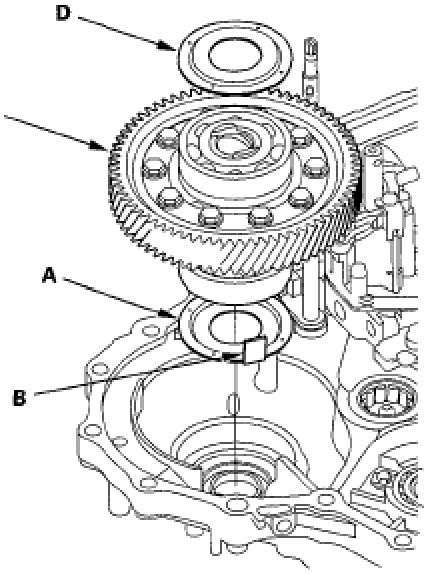

**Fig. 523: Identifying Differential Assembly, Spacer And Spacer Tab**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly (C) in the torque converter housing, and put the spacer (D) on the differential.
3. Install the differential assembly securely using the 40 mm I.D. driver and the 30 mm I.D. attachment in the torque converter housing, so there is no clearance between the bearing, the spacer, and the torque converter housing.

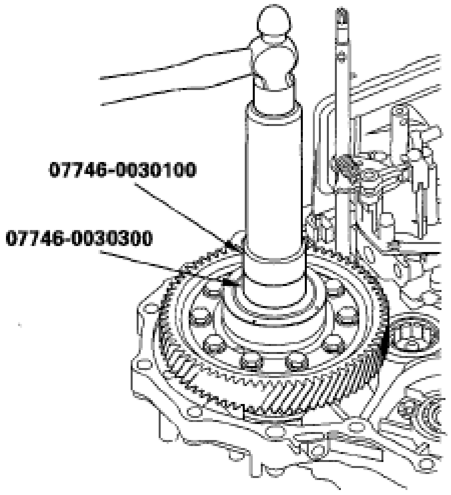

**Fig. 524: Identifying Differential Assembly In Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the 90 mm thrust shim (A) in the transmission housing (B).

   If you replace the 90 mm thrust shim with a new one, use the same thickness as the old one.

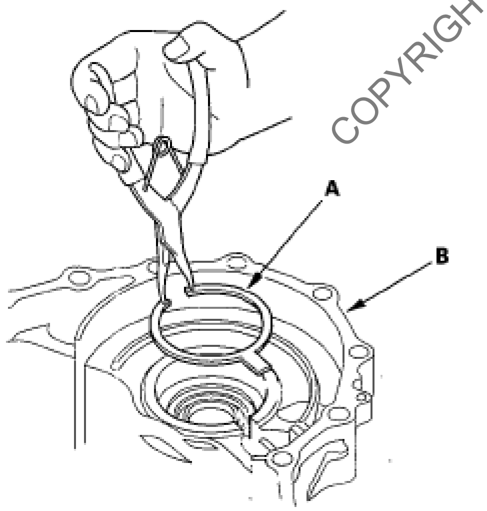

**Fig. 525: Installing Thrust Shim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Align the spring pin (A) on the selector control shaft (B) with the transmission housing groove (C) by turning the control shaft with the detent plate (D).

**NOTE: Do not squeeze the end of the selector control shaft tips together when turning the control shaft.**

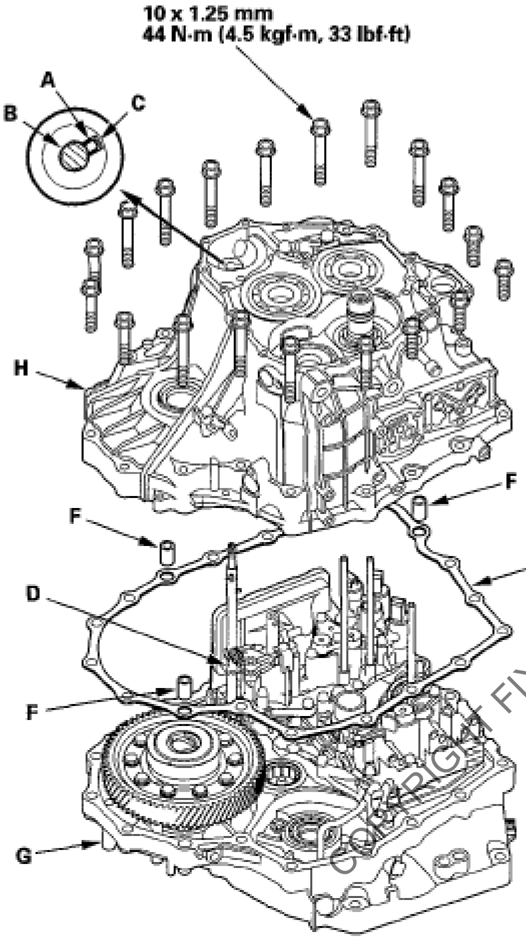

**Fig. 526: Disassembling Torque Converter Housing & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the gasket (E) and the three dowel pins (F) on the torque converter housing (G).
7. Place the transmission housing (H), and install the mounting bolts (19 bolts). Tighten the bolts to 44 N.m (4.5 kgf.m, 33 lbf.ft) in a crisscross pattern in two or more steps.
8. Measure the clearance between the 90 mm thrust shim and the spacer using a feeler gauge.

**Standard: 0-0.07 mm (0-0.003 in.)**

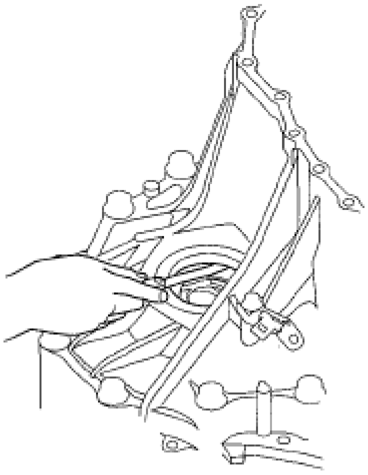

**Fig. 527: Measuring Clearance Between Thrust Shim And Spacer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If the clearance is out of standard, remove the 90 mm thrust shim, and measure its thickness.
10. Select and install a new thrust shim. Recheck the clearance and make sure it is within the standard.

**THRUST SHIM, 90 mm**

**THRUST SHIM THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| A | 41441-RPC-000 | 1.30 mm (0.051 in.) |
| B | 41442-RPC-000 | 1.35 mm (0.053 in.) |
| C | 41443-RPC-000 | 1.40 mm (0.055 in.) |
| D | 41444-RPC-000 | 1.45 mm (0.057 in.) |
| E | 41445-RPC-000 | 1.50 mm (0.059 in.) |
| | | |

| | | |
|---|---|---|
| F | 41446-RPC-000 | 1.55 mm (0.061 in.) |
| G | 41447-RPC-000 | 1.60 mm (0.063 in.) |
| H | 41448-RPC-000 | 1.65 mm (0.065 in.) |
| I | 41449-RPC-000 | 1.70 mm (0.067 in.) |
| J | 41450-RPC-000 | 1.75 mm (0.069 in.) |
| K | 41451-RPC-000 | 1.80 mm (0.071 in.) |
| L | 41452-RPC-000 | 1.85 mm (0.073 in.) |
| M | 41453-RPC-000 | 1.90 mm (0.075 in.) |
| N | 41454-RPC-000 | 1.95 mm (0.077 in.) |
| O | 41455-RPC-000 | 2.00 mm (0.079 in.) |
| P | 41456-RPC-000 | 2.05 mm (0.081 in.) |
| Q | 41457-RPC-000 | 2.10 mm (0.083 in.) |
| R | 41458-RPC-000 | 2.15 mm (0.085 in.) |
| S | 41459-RPC-000 | 2.20 mm (0.087 in.) |
| T | 41460-RPC-000 | 2.25 mm (0.089 in.) |
| U | 41461-RPC-000 | 2.30 mm (0.091 in.) |
| V | 41462-RPC- | 2.35 mm |

| | | |
|---|---|---|
| | 000 | (0.093 in.) |
| W | 41463-RPC-000 | 2.40 mm (0.095 in.) |